X-17294.txt

SEQUENCE LISTING

<110> Karras, James G

<120> Antisense Oligonucleotide Modulation of STAT3
      Expression

<130> X-17294

<160> 406

<170> PatentIn Ver. 2.1

<210> 1
<211> 2787
<212> DNA
<213> Homo sapiens

<400> 1
```
cagctggaat tcggggcggc ggcgcagact gggaggggga gccggggggtt ccgacgtcgc   60
agccgaggga acaagcccca accggatcct ggacaggcac cccggcttgg cgctgtctct  120
cccccctcggc tcggagaggc ccttcggcct gagggagcct cgccgcccgt ccccggcaca  180
cgcgcagccc cggcctctcg gcctctgccg gagaaacagg atggcccaat ggaatcagct  240
acagcagctt gacacacggt acctggagca gctccatcag ctctacagtg acagcttccc  300
aatggagctg cggcagtttc tggccccttg gattgagagt caagattggg catatgcggc  360
cagcaaagaa tcacatgcca ctttggtgtt tcataatctc ctgggagaga ttgaccagca  420
gtatagccgc ttcctgcaag agtcgaatgt tctctatcag cacaatctac gaagaatcaa  480
gcagtttctt cagagcaggt atcttgagaa gccaatggag attgcccgga ttgtggcccg  540
gtgcctgtgg gaagaatcac gccttctaca gactgcagcc actgcggccc agcaaggggg  600
ccaggccaac cacccacag cagccgtggt gacggagaag cagcagatgc tggagcagca  660
ccttcaggat gtccggaaga gagtgcagga tctagaacag aaaatgaaag tggtagagaa  720
tctccaggat gactttgatt tcaactataa aaccctcaag agtcaaggag acatgcaaga  780
tctgaatgga aacaaccagt cagtgaccag gcagaagatg cagcagctgg aacagatgct  840
cactgcgctg gaccagatgc ggagaagcat cgtgagtgag ctggcggggc ttttgtcagc  900
gatggagtac gtgcagaaaa ctctcacgga cgaggagctg gctgactgga agaggcggca  960
acagattgcc tgcattggag gcccgcccaa catctgccta gatcggctag aaaactggat 1020
aacgtcatta gcagaatctc aacttcagac ccgtcaacaa attaagaaac tggaggagtt 1080
gcaccaaaaa gtttcctaca aaggggaccc cattgtacag caccggccga tgctggagga 1140
gaggatcgtg gagctgttca gaaacttaat gaaaagtgcc tttgtggtgg agcggcagcc 1200
ctgcatgccc atgcatcctg accggcccct cgtcatcaag accggcgtcc agttcactac 1260
taaagtcagg ttgctggtca agttccctga gttgaattat cagcttaaaa ttaaagtgtg 1320
cattgacaaa gactctgggg acgttgcagc tctcagagga tcccggaaat ttaacattct 1380
gggcacaaac acaaaagtga tgaacatgga agaatccaac aacggcagcc tctctgcaga 1440
attcaaacac ttgacccctga gggagcagag atgtgggaat ggggccgag ccaattgtga 1500
tgcttccctg attgtgactg aggagctgca cctgatcacc tttgagaccg aggtgtatca 1560
ccaaggtctc aagattgacc tagagaccca ctccttgtca gttgtggtga tctccaacat 1620
ctgtcagatg ccaaatgcct gggcgtccat cctgtggtac aacatgctga ccaacaatcc 1680
caagaatgtg aacttcttca ctaagccgcc aattggaacc tgggaccaag tggccgaggt 1740
gctcagctgg cagttctcgt ccaccaccaa gcggggggctg agcatcgagc agctgacaac 1800
gctggctgag aagctcctag ggcctggtgt gaactactca gggtgtcaga tcacatgggc 1860
taacttctgc aaagaaaaca tggctggcaa gggcttctcc tactgggtct ggctagacaa 1920
tatcatcgac cttgtgaaaa agtatatctt ggccctttgg aatgaagggt acatcatggg 1980
tttcatcagc aaggagcggg agcgggcact cttgagcact aagcccccag gcaccttcct 2040
gctgcgcttc agtgaaagca gcaaagaagg aggcgtcact ttcacttggg tggagaagga 2100
catcagcggt aagacccaga tccagtccgt ggaaccatac acaaagcagc agctgaacaa 2160
catgtcattt gctgaaatca tcatgggcta taagatcatg gatgctacca atatcctgtt 2220
gtctccactt gtctatctct atcctgacat tcccaaggag gaggcattcg ggaagtattg 2280
tcggccagag agccaggagc atcctgaagc tgacccaggt agcgctgccc catacctgaa 2340
gaccaagttt atctgtgtga caccaacgac ctgcagcaat accattgacc tgccgatgtc 2400
ccccccgcgct ttagattcat tgatgcagtt tggaaataat ggtgaaggtg ctgaaccctc 2460
agcaggaggg cagtttgagt ccctcacctt tgacatggag ttgacctcgg agtgcgctac 2520
ctccccccatg tgaggagctg agaagcggaag ctgcagaaag atacgactag ggcgcctacc 2580
tgcattctgc cacccctcac acagccaaac cccagatcat ctgaaactac taactttgtg 2640
gttccagatt ttttttaatc tcctacttct gctatctttg agcaatctgg cacttttaa 2700
aaatagagaa atgagtgaat gtgggtgatc tgcttttatc taaatgcaaa taaggatgtg 2760
ttctctgaga cccatgatca ggggatg                                     2787
```

<210> 2
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 2
gtctgcgccg ccgccccgaa   20

<210> 3
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 3
ggccgaaggg cctctccgag   20

<210> 4
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 4
tcctgtttct ccggcagagg   20

<210> 5
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 5
catcctgttt ctccggcaga   20

<210> 6
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 6
gccatcctgt ttctccggca   20

<210> 7
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 7
gggccatcct gtttctccgg   20

<210> 8
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 8
ttgggccatc ctgtttctcc   20

<210> 9
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 9
cattgggcca tcctgtttct   20

<210> 10
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 10
tccattgggc catcctgttt   20

<210> 11
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 11
attccattgg gccatcctgt   20

<210> 12
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 12
tgattccatt gggccatcct   20

<210> 13
<211> 20
<212> DNA
<213> Artificial Sequence

```
<220>
<223> Description of Artificial Sequence: Synthetic

<400> 13
gctgattcca ttgggccatc                                                    20


<210> 14
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 14
tagctgattc cattgggcca                                                    20


<210> 15
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 15
tgtagctgat tccattgggc                                                    20


<210> 16
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 16
ctgtagagct gatggagctg                                                    20


<210> 17
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 17
cccaatcttg actctcaatc                                                    20


<210> 18
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 18
cccaggagat tatgaaacac                                                    20
```

<210> 19
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 19
acattcgact cttgcaggaa   20

<210> 20
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 20
tctgaagaaa ctgcttgatt   20

<210> 21
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 21
ggccacaatc cgggcaatct   20

<210> 22
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 22
tggctgcagt ctgtagaagg   20

<210> 23
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 23
ctgctccagc atctgctgct   20

<210> 24
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

```
<400> 24
tttctgttct agatcctgca                                              20


<210> 25
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 25
tagttgaaat caaagtcatc                                             20


<210> 26
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 26
ttccattcag atcttgcatg                                             20


<210> 27
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 27
tctgttccag ctgctgcatc                                             20


<210> 28
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 28
tcactcacga tgcttctccg                                             20


<210> 29
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 29
gagttttctg cacgtactcc                                             20


<210> 30
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 30
atctgttgcc gcctcttcca   20

<210> 31
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 31
ctagccgatc taggcagatg   20

<210> 32
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 32
cgggtctgaa gttgagattc   20

<210> 33
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 33
cggccggtgc tgtacaatgg   20

<210> 34
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 34
tttcattaag tttctgaaca   20

<210> 35
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 35
aggatgcatg ggcatgcagg   20

<210> 36
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 36
gaccagcaac ctgactttag   20

<210> 37
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 37
atgcacactt taattttaag   20

<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 38
ttccgggatc ctctgagagc   20

<210> 39
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 39
ttccatgttc atcacttttg   20

<210> 40
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 40
gtcaagtgtt tgaattctgc   20

<210> 41
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 41
caatcaggga agcatcacaa   20

<210> 42
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 42
tacacctcgg tctcaaaggt   20

<210> 43
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 43
tgacaaggag tgggtctcta   20

<210> 44
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 44
cgcccaggca tttggcatct   20

<210> 45
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 45
cattcttggg attgttggtc   20

<210> 46
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 46
cacttggtcc caggttccaa   20

<210> 47
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 47
cccgcttggt ggtggacgag   20

<210> 48
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 48
agttcacacc aggccctagg   20

<210> 49
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 49
gttttctttg cagaagttag   20

<210> 50
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 50
atattgtcta gccagaccca   20

<210> 51
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 51
aacccatgat gtacccttca   20

<210> 52
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 52
gcttagtgct caagatggcc   20

```
<210> 53
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 53
gctgctttca ctgaagcgca                                                    20


<210> 54
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 54
gtgaaagtga cgcctccttc                                                    20


<210> 55
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 55
ctgatgtcct tctccaccca                                                    20


<210> 56
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 56
actggatctg ggtcttaccg                                                    20


<210> 57
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 57
aaatgacatg ttgttcagct                                                    20


<210> 58
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
```

<400> 58
gcccatgatg atttcagcaa   20

<210> 59
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 59
tattggtagc atccatgatc   20

<210> 60
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 60
atagacaagt ggagacaaca   20

<210> 61
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 61
ttgggaatgt caggatagag   20

<210> 62
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 62
ctcctggctc tctggccgac   20

<210> 63
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 63
acctgggtca gcttcaggat   20

<210> 64
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 64
cacagataaa cttggtcttc   20

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 65
atcggcaggt caatggtatt   20

<210> 66
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 66
ccaaactgca tcaatgaatc   20

<210> 67
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 67
ggttcagcac cttcaccatt   20

<210> 68
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 68
gagggactca aactgccctc   20

<210> 69
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 69
caactccatg tcaaaggtga   20

<210> 70
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 70
ttctcagctc ctcacatggg   20

<210> 71
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 71
cgttctcagc tcctcacatg   20

<210> 72
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 72
tccgttctca gctcctcaca   20

<210> 73
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 73
cttccgttct cagctcctca   20

<210> 74
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 74
agcttccgtt ctcagctcct   20

<210> 75
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 75
agaatgcagg taggcgcctc   20

<210> 76
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 76
accacaaagt tagtagtttc   20

<210> 77
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 77
tgctcaaaga tagcagaagt   20

<210> 78
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 78
attcactcat ttctctattt   20

<210> 79
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 79
catttagata aaagcagatc   20

<210> 80
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 80
acatccttat ttgcatttag   20

<210> 81
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 81
gatcatgggt ctcagagaac   20

<210> 82
<211> 2869
<212> DNA
<213> Mus musculus

<400> 82
gccgcgacca gccaggccgg ccagtcgggc tcagcccgga gacagtcgag acccctgact 60
gcagcaggat ggctcagtgg aaccagctgc agcagctgga cacacgctac ctgaagcagc 120
tgcaccagct gtacagcgac acgttcccca tggagctgcg gcagttcctg gcaccttgga 180
ttgagagtca agactgggca tatgcagcca gcaaagagtc acatgccacg ttggtgtttc 240
ataatctctt gggtgaaatt gaccagcaat atagccgatt cctgcaagag tccaatgtcc 300
tctatcagca caaccttcga agaatcaagc agtttctgca gagcaggtat cttgagaagc 360
caatggaaat tgcccggatc gtggcccgat gcctgtggga agagtctcgc ctcctccaga 420
cggcagccac ggcagcccag caaggggggcc aggccaacca cccaacagcc gccgtagtga 480
cagagaagca gcagatgttg gagcagcatc ttcaggatgt ccggaagcga gtgcaggatc 540
tagaacagaa aatgaaggtg gtggagaacc tccaggacga ctttgatttc aactacaaaa 600
ccctcaagag ccaaggagac atgcaggatc tgaatggaaa caaccagtct gtgaccagac 660
agaagatgca gcagctggaa cagatgctca cagccctgga ccagatgcgg agaagcattg 720
tgagtgagct ggcggggctc ttgtcagcaa tggagtacgt gcagaagaca ctgactgatg 780
aagagctggc tgactggaag aggcggcagc agatcgcgtg catcggaggc cctcccaaca 840
tctgcctgga ccgtctggaa aactggataa cttcattagc agaatctcaa cttcagaccc 900
gccaacaaat taagaaactg gaggagctgc agcagaaagt gtcctacaag ggcgacccta 960
tcgtgcagca ccggcccatg ctggaggaga ggatcgtgga gctgttcaga aacttaatga 1020
agagtgcctt cgtggtggag cggcagccct gcatgcccat gcacccggac cggcccttag 1080
tcatcaagac tggtgtccag tttaccacga aagtcaggtt gctggtcaaa tttcctgagt 1140
tgaattatca gcttaaaatt aaagtgtgca ttgataaaga ctctggggat gttgctgccc 1200
tcagagggtc tcggaaattt aacattctgg gcacgaacac aaaagtgatg aacatggagg 1260
agtctaacaa cggcagcctg tctgcagagt tcaagcacct gacccttagg gagcagagat 1320
gtgggaatgg aggccgtgcc aattgtgatg cctccttgat cgtgactgag gagctgcacc 1380
tgatcacctt cgagactgag gtgtaccacc aaggcctcaa gattgaccta gagacccact 1440
ccttgccagt tgtggtgatc tccaacatct gtcagatgcc aaatgcttgg gcatcaatcc 1500
tgtggtataa catgctgacc aataacccca gaacgtgaa cttcttcact aagccgccaa 1560
ttggaacctg ggaccaagtg gccgaggtgc tcagctggca gttctcgtcc accaccaagc 1620
gagggctgag catcgagcag ctgacaacgc tggctgagaa gctcctaggg cctggtgtga 1680
actactcagg gtgtcagatc acatgggcta aattctgcaa agaaaacatg gctggcaagg 1740
gcttctcctt ctgggtctgg ctagacaata tcatcgacct tgtgaaaaag tatatcttgg 1800
ccctttggaa tgaagggtac atcatggggtt tcatcagcaa ggagcgggag cgggccatcc 1860
taagcacaaa gccccccgggc accttcctac tgcgcttcag cgagacgagc aaagaaggag 1920
gggtcacttt cacttgggtg gaaaaggaca tcagtggcaa gacccagatc cagtctgtag 1980
agccatacac caagcagcag ctgaacaaca tgtcatttgc tgaaatcatc atgggctata 2040
agatcatgga tgcgaccaac atcctggtgt ctccacttgt ctacctctac cccgacattc 2100
ccaaggagga ggcatttgga aagtactgta ggcccgagag ccaggagcac cccgaagccg 2160
acccaggtag tgctgccccg tacctgaaga ccaagttcat ctgtgtgaca ccaacgacct 2220
gcagcaatac cattgacctg ccgatgtccc cccgcacttt agattcattg atgcagtttg 2280
gaaataacgg tgaaggtgct gagccctcag caggagggca gtttgagtcg ctcacgtttg 2340
acatggatct gacctcggag tgtgctacct cccccatgtg aggagctgaa accagaagct 2400
gcagagacgt gacttgagac acctgccccg tgctccaccc ctaagcagcc gaaccccata 2460
tcgtctgaaa ctcctaactt tgtggttcca gatttttttt tttaatttcc tacttctgct 2520
atctttgggc aatctgggca ctttttaaaa gagagaaatg agtgagtgtg ggtgataaac 2580
tgttatgtaa agaggagaga cctctgagtc tggggatggg gctgagagca gaagggaggc 2640
aaaggggaac acctcctgtc ctgcccgcct gccctccttt ttcagcagct cgggggttgg 2700
ttgttagaca agtgcctcct ggtgcccatg gctacctgtt gccccactct gtgagctgat 2760
accccattct gggaactcct ggctctgcac tttcaacctt gctaatatcc acatagaagc 2820
taggactaag cccaggaggt tcctctttaa attaaaaaaa aaaaaaaaa   2869

<210> 83
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 83
gttccactga gccatcctgc   20

<210> 84
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 84
ttcaggtagc gtgtgtccag   20

<210> 85
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 85
atgtgactct ttgctggctg   20

<210> 86
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 86
ccaagagatt atgaaacacc   20

<210> 87
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 87
gctccaacat ctgctgcttc   20

<210> 88
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 88
gctcttcatc agtcagtgtc   20

<210> 89
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 89
atctgacacc ctgagtagtt   20

<210> 90
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 90
gccagaccca gaaggagaag   20

<210> 91
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 91
cgctccttgc tgatgaaacc   20

<210> 92
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 92
aacttggtct tcaggtacgg   20

<210> 93
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 93
atcaatgaat ctaaagtgcg   20

<210> 94
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 94
tcagcacctt caccgttatt   20

<210> 95
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 95
actcaaactg ccctcctgct   20

<210> 96
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 96
ggtttcagct cctcacatgg   20

<210> 97
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 97
taaaaaaaaa aatctggaac   20

<210> 98
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 98
aagatagcag aagtaggaaa   20

<210> 99
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 99
aaaaagtgcc cagattgccc   20

<210> 100
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 100
atcacccaca ctcactcatt   20

<210> 101
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 101
cctttgcctc ccttctgctc   20

<210> 102
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 102
tgaaaaagga gggcaggcgg   20

<210> 103
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 103
caccaggagg cacttgtcta   20

<210> 104
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 104
aacctcctgg gcttagtcct   20

<210> 105
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 105
aaaaagtgcg cagattgccc   20

```
<210> 106
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 106
aaaaagtccg ctgattgccc                                          20


<210> 107
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 107
aaaaactccg ctgaatgccc                                          20


<210> 108
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 108
atgtgattct ttgctggccg                                          20


<210> 109
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 109
agctgattcc attgggccat                                          20


<210> 110
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 110
ccaggagatt atgaaacacc                                          20


<210> 111
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
```

<400> 111
accgtgtgtc aagctgctgt   20

<210> 112
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 112
ccattgggaa gctgtcactg   20

<210> 113
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 113
tgtgattctt tgctggccgc   20

<210> 114
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 114
gcggctatac tgctggtcaa   20

<210> 115
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 115
gctccagcat ctgctgcttc   20

<210> 116
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 116
gattcttccc acaggcaccg   20

<210> 117
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 117
tgattcttcc cacaggcacc   20

<210> 118
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 118
atcctgaagg tgctgctcca   20

<210> 119
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 119
cggacatcct gaaggtgctg   20

<210> 120
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 120
cccgccagct cactcacgat   20

<210> 121
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 121
agtcagccag ctcctcgtcc   20

<210> 122
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 122
ccagtcagcc agctcctcgt   20

<210> 123
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 123
cgcctcttcc agtcagccag   20

<210> 124
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 124
ggccggtgct gtacaatggg   20

<210> 125
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 125
atcctctcct ccagcatcgg   20

<210> 126
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 126
ccgctccacc acaaaggcac   20

<210> 127
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 127
cgtccccaga gtctttgtca   20

<210> 128
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 128
ttgtgtttgt gcccagaatg   20

<210> 129
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 129
gctcggcccc cattcccaca   20

<210> 130
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 130
aggcatttgg catctgacag   20

<210> 131
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 131
cttgggattg ttggtcagca   20

<210> 132
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 132
ctcggccact tggtcccagg   20

<210> 133
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 133
ccccgcttgg tggtggacga   20

<210> 134
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 134
cccccgcttg gtggtggacg   20

<210> 135
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 135
ggagaagccc ttgccagcca   20

<210> 136
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 136
ttcattccaa agggccaaga   20

<210> 137
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 137
cccgctcctt gctgatgaaa   20

<210> 138
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 138
gtgctcaaga tggcccgctc   20

<210> 139
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 139
cccaagtgaa agtgacgcct   20

<210> 140
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 140
acccaagtga aagtgacgcc   20

<210> 141
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 141
ccgaatgcct cctccttggg   20

<210> 142
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 142
gccgacaata cttcccgaat   20

<210> 143
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 143
gatgctcctg gctctctggc   20

<210> 144
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 144
tcaatgaatc taaagcgcgg   20

<210> 145
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 145
gactcaaaact gccctcctgc   20

<210> 146
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 146
atcacccaca ttcactcatt   20

<210> 147
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 147
aaaagtgccc agattgc   17

<210> 148
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 148
aaaagtgccc agattgctca   20

<210> 149
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 149
taaaagtgcc cagattgctc   20

<210> 150
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 150
aagcagatca cccacattca   20

<210> 151
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 151
aaaaagaggc ctgattgccc   20

<210> 152
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 152
tctggcaaag tgtcagtatg   20

<210> 153
<211> 74424
<212> DNA
<213> H. sapiens

<220>
<223> Antisense oligonucleotide

<400> 153
agagcgggca ggagggagct gtatcagggg catttaaagt gccttgacgt cacgcactgc 60
caggaactca gctgagtttt cagcaggaca ttccggtcat cttccctccc tccccccggg 120
cttctgtgcc caagtcctcg gctcttccct cgctgtggcg gagggaggag caccgaactg 180
tcggaacagc cagcacaggg gcgtatcagt ctcctcttgg ctccgccctt tctcctagct 240
gctctcctca ttggtcagtg ggcggggctt cggctgtacc gcacacgcac tgggacctct 300
gggtggccga acgagctggc ctttcatgaa ttatgcatga cggcgtgcct cggccaggct 360
ggggctgggc gaggattggc tgaaggggct gtaattcagc ggtttccgga gctgcggcgg 420
cgcagactgg gagggggagc cggggggttcc gacgtcgcag ccgagggaac aagccccaac 480
cggatcctgg acaggcaccc cggcttggcg ctgtctctcc ccctcggctc ggagaggccc 540
ttcggcctga gggagcctcg ccgcccgtcc ccggcacacg cgcagccccg gcctctcggc 600
ctctgccgga gaaacaggtg aaggggggtgc agggtggggc cgttggggag gcctggggac 660
ccggggggctc cgcagcggca ggggggcctct gggaccttgg ggatgttgtg atggacgctg 720
cagtggggcc gggagagatg aagagacgcg gagggtcgcc ctgagggaag actcttcggg 780
atgacaggag cgggcctcgg aagggactcg gggcgctgga gggaagtttc gttcttcgga 840
gaaacagaac gcgctcgagg gggcaccgtg gggcgagggc gcactcggtt gcggcggcag 900
gagtgaggga cagtcccccg atttcctgct ccctgggggc ctggggacgt tccggccacc 960
ggagcgactg tcacgccgac ggggatcacc ggcgcggagtg gggggtcgga aagcgcctcc 1020
tcccccgcccg gtcggcggct cccgctgagc cacttcctcc gcttgccctg ttcccgctcc 1080
ttcaggagac agctgtgccc ttttggaggc aggaataggt gtgtctgtcg cctgcagcct 1140
tacgggctgg ctggtcgtgg gtaggcttta ttgcataaga atcaagtttc ctgtagggaa 1200
attgacagac cggtactctt tctaaattcc ctcgcatctt tttctaggtt aaattatgct 1260
ccccccacgt ccccgccttg taaaaaagag aaaaaaagac aaaataaaat ccccatcaac 1320
ccgtcaagcc agctctagag agagaaataa acctcttgac attgtccttt tccaaatacc 1380
tggtaaagtc ggccagaaga taaataattg agccattgca tttactggat tgtggtgttg 1440
cttaattgca taggacggaa tgaaccaatt gagagtggga gttttctgtc tcagagccaa 1500
gatcttgggt aaatgcagag gagagggaaa caaagacag ctggccttga aaaaaccatg 1560
tgtgcaaact ttacatgcat ttggggggtg tggttgcact gaagttaaca agattcaaac 1620
cgtcgcccaa gttggtattt ccatgtttgg tacacatcac tctgtgccat atcaggtcgt 1680
tgttaagtgt ggtgacaaaa tcagtggtta gtcatttttt taattaaaaa tgtgtatagt 1740
gtgtacctgc tggtcttact gtatgtgcaa ctaaaggttt acatagtctg tgtatgggtt 1800
gtaaattttt ggctggctgt gctgataaag cattgggctt gaataaagca aagcagaaaa 1860
tcatctcaat cttttatatg tggatttaga ctgtgttatg acttggttca gccagttttc 1920
tatcttattt tatattaaat atgtctgtgt tctctgagtc agcacattta tttccttatt 1980
acatgttcca gacaggagtg ctagcccagt tttttgttcag tttgcacagt gggatgggga 2040
aacaagtctg gaatttaaaa aaaaatgttt tagaggttgg agccttgatt ttagtctcta 2100
tattagcaca tccatcacaa agaaccatta gtaaattcat gaatctttg ttttttatgt 2160
agttcatttg agaagaataa tcacttagaa atatccacag tgccaggcat ggtggtgcac 2220
acctctgatc ccagctaatt gaaggctgag gtgggaggat tccttgagtc caggagttga 2280
gtctggtctg ggcaacatgg tgagaggcca ggaattgggt ctagagtcta gtctaagcac 2340
                                Page 29

```
cataatgaga acccatcttt aagaaagaaa gaaaggaaag gaggaagaaa ggaaagaaaa 2400
agaaataccc acagcacagt tatgaattaa cccacaaagg acttgtgagg tgggtagttc 2460
acataacaat taccctaata tcgtagataa gaaaattgag gccaaaggat caagacactt 2520
ggccaacgca gcagagtgcc atagtggtgg aatttgtgcc tccttctgta tattttgtga 2580
aaagtatcag tgaaattctt tttttttttt ttttgagtc agagtcttgc tctgttgccc 2640
aggctagagt gcagtggcgc aatcttggct cactgcaacc tctgcctcct gggttcaagc 2700
gattctcctg cctcagcctc ccaagtagct gggactacag gcgtgcgcca ccacgcccag 2760
ctaattttg tattttagt agagaccggg gtttaccat attggccagg ctggtcttga 2820
actcctgacc ttgtgatttg cccacctcta tctcccaaag tgctgggatt acaggtgtga 2880
gccaccgcgc ccagtaagta tcagtgaaat tctaacatat atctgaacag taaaataca 2940
ccaataggct gaaagacttc atgggaggta aatattcaat aaacaggtga aaaaagaaat 3000
acaaatggag cttgcttaga ttattttct aattgctatg tctaacttgg gaagtgagga 3060
actgttttg gtcagcataa tttaccatca gaatttagct atttactaat gaaaagaaat 3120
actaatctag gtttgtttta gattaaggac agtcatgacc taaatgtcat ttaaaccaga 3180
gtgcattgtg gcttgatcag tggtcatttc tgtctctaga aagttgcttt aacttctctg 3240
cctctacgtg tctcttgaca ttcagatatg aggtggggta gaggtggtga ccaactttcc 3300
agacgcctga gtccaaacct tcttagctta tggtttcctt aggtgatgtg caaatcaaca 3360
aatatatact tttttttttt ttttttttgag ttggagttgc actctatcac ccaggctgga 3420
gtgcagtggc atgatcgtgg ctcactgcaa cctcctcctc ccgggttcaa gtgattctcg 3480
cacctcagcc tcctgagtag ctgggattac aggtgcccgc cactacgccc ggctaatttt 3540
tgtattttta gtagagataa ggtttcacta tattgaccag gctggtctca aactcctgac 3600
ctcaagagat ctgcccacct cagcctccca aagtgctggg attacaggcg tgaaccacct 3660
tgcctggcca acatatatat accttttgca actttgtcag agttgctatg aagaataagt 3720
tgtatcttgt tcacagaaat tgcagtctac tggggggagct gataaatgtt ttaaccatcc 3780
aatgtaacat gttgtcatca aagagatggt gagactttac acttgtgcta acaaggtagc 3840
tgttctacat aaaagaacat acagtacaga tgtagaactt ttctgttatc atagaacgtt 3900
ctattggaca gtgctaggct gaatgctaca gatcttcaga gaaaggagag gttatgaggc 3960
ctggagttgt ctagaaagtc tttttgccaa agagggattt caactgggtc ccaaataatg 4020
ggtggaattt gataggtgta aagaatttgc ggtggtttat gcctgtaatc ccagcacttt 4080
gggaggctga ggcaggagga ttgcttgagc ccaggagttt gagaccagct tgggcaacgt 4140
ggtaaaactc cctctcccct aaaaataaaa aaaattagcc aggcctggtg gcgtggacct 4200
gtagtcccag ctactggtga gactaaggtg ggaggatcac ccaagccccg ggggttaagg 4260
ctgcagtgag ccgtgatccc gccaccgcac tccagcctgg gtgacagagt gagaccctgt 4320
ctccaaaaaa aaaaaaaatt cctggtagcc cggtagacta ggagggtaag taggggagaa 4380
gtgattactt acaaaagaca ttgaatacag gaccaaggaa tttcagttct gttctttgt 4440
aggggaagct tttaaaactt tcgggcgacc gggcgcggtg gctcacgcct gtaatcccag 4500
cactttggga ggcccagacg cgcggatcac gaggccagga gatcgagacc atcctggcta 4560
acacggtgaa accccatctc tactaaaaat acaaaaaaaa gtagccgggc gttgtggcgg 4620
gcgtctgtag tcccagctac tcgggaggct gaggcaggag aagagcgtga actcgggagg 4680
cggagcttgc agtgagccga tatcgcacca ctgcactcca gcctgggcga cagagcgaga 4740
ctccgtctca aaaaaaaaa aaataaataa ataaataaat aaataaaact ttggagccga 4800
agcactgatg tttaatcata gagtgcttac tatgtgttag gcacaggcct gattgcctga 4860
tgctggttaa tttgtacaaa gtaaatcagt gcatatgccc tctgccctag gggagttatt 4920
aactggagtc tgacattgta caaaggtagg tatcctgact agtttgattt ggtactttgg 4980
gtgaaaaaag tatagtgtgc ttaagtgcag aagtgttttt tgaggatttt tgattggata 5040
caaaccacca ctcatatttt atgtctttgg cacttaaaaa tttcaccata acttttgagt 5100
catttataaa aaccactgaa agagtacttg agggacatcc ccgaatcctg aagaacttct 5160
ggtgttctgg agcagcctca gtgagatcca ggaggatggc attgctgggc tggcccagcc 5220
cttattgatt atggtgtaaa gaattaatat ggtggttata tactctttgt tagacacctt 5280
ggcttacaag acgtaagcgt aaagtgtagt gcgctttagt cagtatggcc acatggtcct 5340
ttggtggtaa attgtttgag atgcctccag tttttaaaag gagtagcata tcgggccagg 5400
agcagtggct catgcctata atcccagcac tttggaaggc cgaggcaaga ggattgcttg 5460
agcccaggag ttcaagacca gcctgggcaa catagtgaga ccactttgtt tctttaaaaa 5520
aaaaaaaaag gcaaaaacag gctgggcatg gtggctgatg cctgtaatcc cagcgctttg 5580
tgaggcagag gtgagcggat cacttgaggt caggagtttg agaccagcct ggccaacatg 5640
gtaaaacccc gtctctacta aaaatacaaa aattagccag gtgtggtggc acacgcctgt 5700
agttccagct actctggagg ctgagccagg agaattgctt gaacctggga ggtggaggct 5760
gcagtgagcc aagatcctgc cactgcactc cagactgggg acagagtga  acattctga 5820
cagtgctaca ctgaatgcta catgtcttca gaggaaggag aggttatgag gcctgggaat 5880
aacatatgga agaatgaatt tctgttatgg tcagttctca tttgtcatgt taggattact 5940
gcaactctta cccagccggg tgtggtggct catgcctgta attccagcac tttgggaggc 6000
tgtgggcgga tcacgaggtc aggagatcga gaccatcctg gctaacacgg tgaaactccg 6060
cctctactaa aaatacaaaa aattagccca gcgtggtggc agacgcctgt agtcccagct 6120
actcaggagg ctgaggcagg agaatggcat gagtcctgga ggcggagctt gcagtgagct 6180
gagatcgtgc cactgcactc cagcctgggc aacagagtgg gactccatct caaaaaaaaa 6240
agaaaaaaaa aaggattacc gcaactcttt aattcagatc agcaaacatg ttgagagcca 6300
ggtattgcgt caggcaggat ccaaggataa tgaaatattg tccgttttca tgaaactgga 6360
gatgttgcag ggaccgaggt gtgtgctatg ccagtatgga agtaggacag gggagacgac 6420
```

```
agggcagtga gtggttcaag actctggctc tgaagtcaaa cagatctggg actgaatcct 6480
ggatctgcca cttcctagtc agaatctgag cctctatttt cttatctgta aagaagatt 6540
ataacagtgc ttatcttgta ggtactgttg acgattcaat aagataatgt ggataaaatg 6600
cttagcatag tgcctggcac atagtaagag ctcggtaaat ctaagttctt actaaatatc 6660
caagaaaaga gattaattct tttcaggagt gagagaaagt catcattatt gaggggcttt 6720
atcagatggg aacacctgaa tagggtttta taggatgaat aggaattctt tccacgaagt 6780
tgcgttacaa aaagttgcat tcaaggctga aggaacatga gggtgcagag gcttaaaaca 6840
gccttgtgtg ttcagggagc tataagtaga agttcttaat ttaggagaac taaaccaagg 6900
ggaaaggagg ccaaggaacc acagttctta tcccttttct gttaataatt gggtttaaat 6960
gtcattaaaa taagttatttt tgtccttttt agaaaagtaa taacatgcta ttataaaaaa 7020
aaagacttgt aggaatataa aatgtgtgtt ttacatgtat cctgttaatt gacttgcttt 7080
tattcagatt ttttgcagcc ctttctgttt accaggttat cttggagaca tatttattcc 7140
aaattccttt tttttttttt ttttgagatg gagtctcgct ctgtcgccca ggctggagtg 7200
cagtggcgct atcttggctc attgcaagct ccgcctcccg ggttcacgcc actctcctgc 7260
ctcagcctcc cgagtagctg ggactacagg cgcccgccac cacgcccagc taatgttttt 7320
tttttttatat ttttagtagc gacagggttt caccgtgtta gccaggatgg tctcaatctc 7380
ctcacattgt gatccgcctg cctcggcctc ccaaagtgct gggattacag gcgtgagcca 7440
gcacgcctgg ccttccaaat tcctttttaac agcctagcaa aagaataata aggaaggtaa 7500
atctgcccct acaagaaaat aatgtgcttcga cgatccggct ttccttcctg ctaccccag 7560
ccataagaat aaatgacctt gctcatcact gaaatttttac ctgacctttg aatttttaac 7620
tgcgtcagcc aaagaactta tattttgagt attcctaagg tgattgctat tgtagttttg 7680
aaacacttgg ttggtatgtt tgagggtttc atggtccaaa gttactatag cagttaaaag 7740
agtggactat caggtcagac ctattgggct ttaatcccag ttctgccttc tcttagacct 7800
tgggcctgtt gttttcactt ctctggtttt cagtttctct gtccacaatt gtggaaacga 7860
ggtccacttg tagagtaatt gagaggatga agcaagatga tgcatatcaa gtactttgca 7920
tagtgccggg cagacaggta acattcaagt gctaataatt actattatta ctatttattt 7980
tttgagacag gttctcactc tgtcacctag gctggagtgc agcggtgaga tcacagctca 8040
tgacagcctt gacctcctag gctcaagtga tcctcctgcc tcagccttcg gggtagctgg 8100
ggctacaggt gtgtgctacc accctcagct aattttctaa tttttttgag tcaggatctc 8160
gtcacgttgc ctaggctgaa ttactcttat taaaaactat aatatcaggc cgagtgcggt 8220
ggctcacgcc tgtaatccca gcactttggg aggccaaggc gggtggatca cctgaggtca 8280
ggagttcaag accagcctgc ccaacagagt gagacccccc ccgtctctac taaaaatata 8340
aaaattagcc agttgtggtg gtgggcacct gtaatcccag ctactcggga ggctgaggca 8400
ggataatcgc ttgaacccgg gaggcggagg ttgcggtgaa ccgagatcgt gccactgcac 8460
tacagcctgg gtgacagagt gagactctgt ctcaaaaaaa ccgaaaaaca aaaagcataa 8520
ttagggtggt aacgcttata catagggca ggtggaataa aacataatta ggaggtcggg 8580
catggtggct cacgcctgta attccagcac tttgggaggc cgaggcgggt caggagttca 8640
agaccagcct gcccaacata gtgagacccc gtctctacta aaaatataaa atttagcctg 8700
ttgtggtggc gggtgcctgt agtcccagct acccgggagg ctgaggcagg agaattgctt 8760
ttgaacccag gaggtggggg ttgcagtgag ctgagatcgc gccgctgcac tccagcctgg 8820
gagacagagc aagactccgt cacaaaaaca aaaaacaaaa aactgtcata tcaaaaacta 8880
aactaaaatg gtaatatctg ttagatatta caaagtcagg caaattatga ttcatggcag 8940
ccactaatga cccaaaggag agaaagaata attagcagat tctaacctaa tgggaaaaaa 9000
actaaatgaa tagggatggg ggacttacat tctgttagag gaaattgagg ctgtcatata 9060
aaaggaatag gtaaggcaaa ctgtaaattc ctgtttacac aaatgcccct ctgataaatc 9120
tctgcattgc ccacagtcca tgattacctc tcccttattt taagtaatat ttaacacatt 9180
aaaaatggat taccacccaa ggaattgctc ccgacccaga aagtgcaggt agtgttgaag 9240
gtttgagggg aagaggaatg attagagttg gttgtgtctc aggaagaagc caacaggagg 9300
aaccttattt tgagtcaggt aaagaaggtg ggagtgagga ggcatcccgg tggccaggta 9360
tgaagctggg agctgattgc tgcacattac tcagctgaat taaatgtgcc ctcacatctg 9420
tgtgtgtgcg tacatgcaaa tgtacatgtg tatgagttag ttggaggggt agacctttat 9480
tttcctgtcc tgtaactttc ctttgcaaac taatctgtat tcagaacagt gttgcagtta 9540
agaaccaccc agcttgtcca tgaaacaggt tctctcaccc catctcccca gtttttagaga 9600
aggcaggaaa gaaaaggcag tgcttttctt ttttcctggc cgtatgcggg gcaggaagaa 9660
gccagcagag cttgaaagag aaagtaaacc ttctgggaaa taaacggctt ggcttcccta 9720
ttgtggagga ggagtgcaaa ttattagggg gatgtttggg tagtttttgt agaagccatt 9780
tctgaaaact gatttggatt agtgaaggta agcccaattt aggaaaaccc tgcccagtct 9840
ggtgtcagcc acctgtttcc cgctttgttt gattgatttg attagtttgt ggtattctga 9900
cctctcattt ttattacaag agttggaaga tttgagtctg aacttgagca cctgcttcgg 9960
tgaaagcttc ctaaaatgca tgtttttttca cattttttct catgttcatt ttgttttgct 10020
ttttagcaaa cactttttct gacagaatct aaaagcatta gacttttctt gttttcccct 10080
tctctcccca caatgtaatc ttgaaaaccc aaatgttagc tgtgtaaatt acctctcccg 10140
taaaccaaac aaagtgcaat attgcattga gttagcattg aaatagtcgg cctttgaatt 10200
tttttctact tgtggtttag acataataaa tatttcatct cagactgact ttctcgacaa 10260
atcagttttg catttgggcc tctttttcatc agtatgtttta gggaaagcac atttattgaa 10320
acattaacca aaatgaaaca taattaggag gccgggagcg atggctcacg cctgtaatcc 10380
cagcactttg ggagaccaag gcatgtggat tgcttgaggt caggagttca agaccatcct 10440
tgccgacttg gtgaaatcct gtttctactg aaaatacaaa aaactagctg ggtgtggtga 10500
```

Page 31

```
cgcgtgcctg taatcccagc tactctggag gctaaagcaa gagaatcgct tgaacctggg 10560
aggcagaggt tgcagtgagt cgagatcgtg ccactgcact ccagcctggg caacagagac 10620
tccgtctcaa acaaccaaaa aaacaaaaac aagcataatt agggtggtaa cgcttataca 10680
taggggcagg tggaataatt gaagcattct ggagccagaa ataatcaact gattaagaat 10740
aatctggctg ggtgcggtgg ctcacgcctg taatcccagc tactcaggag gctgaggcag 10800
gagaatcgct tgaacctggg aggtggaggt tgcagtgagc cgagatcgcg ccattgcact 10860
ccagcctggg ctatggagca agactccatc tcaaaaaaaa aaaaaaaaaa aatcctgttt 10920
ctgcagaaat atcccaggtg tcctgggtca gcagtgcccc atagattcca cggacgttta 10980
ccctaagttt tccaatggga gttcatacct ctataccag tgagaatatt ttctgagtaa 11040
tgggaatgag attggagatg tagggtagag aagatccata cagtctttgg gttaaacttt 11100
ttcctctttg cctaggaaag attaatgcta atcttaacca cagatttgta gtaagaatgt 11160
atcagttttg tcattcagtt ctagactcca gttttcttta ttgtaatacc aatattttag 11220
agtaaatttt gaaatgaatc agtacaaaag atatgtagta agtggaaagt tagtccgcac 11280
cttatccttg ggactctttc ccagggacag ctagttacct actatttatc tctcctgagt 11340
tacttcatat gtatgcatgc aaacatgtta ttctctgggt gttgttcctt ccatatatag 11400
cagcaaatac accaaactct gtattttgct ttttgtcact ttatcttaga gaatactcaa 11460
tgcaaataca tgtgtatata cctcatgttt aaaaaatcta catagtaaaa ttagccaggc 11520
atggtagtgt gtgcctgtaa tcccagctca tcgggaggct gtggtgggag aatcacttga 11580
accctgagat cacaccactg gactccagcc tgggccacag agcaagattc tgtctcaaaa 11640
aacaaaaaca aaaacaaaaa aactacagag tagtattcta ggctatgcat atcataaatt 11700
tgatttccta atgataggca tagatgattt gcctgggcgg caaattagcg ttggctgtgt 11760
ctcaggaaga agccaacagg aggaacctta ttttgagtca ggttccaaag acagaaacat 11820
tgtctgacat ttgtttttgg gcttatatga ataaatctgt acacatatat ttttaatgtt 11880
ttaatcgtaa tatgtatact atttggaaat gtggcttttt agttaacaga gtgcatgttt 11940
taccccattg cacttaaaca ttaacttggg gataattaaa tgagtctgtc acttggacag 12000
gcaggaattg tacccccccac aaacccataa accgccaatt ttttttttt gagacagagc 12060
ctcattctgt tgcccaggct ggagtgcagt ggtgcgatct gggcccactg taagctcagc 12120
ctcccgggtt catgccattc tcctgcctca gcctcccaag tagctgggac tacaggcgcc 12180
cgtcacaatg cccggctaat tttttgtatt tttagtagag tcggggtttc accatgttag 12240
ccaggatggt ctctatctcc tgaccttgtg atccgcccgc tttggcctcc caaagtgctg 12300
gaattacagg tgtgagccac cgcacctggc cggttttttt tttttttttt gagatggagt 12360
cttgctctgt tgccaggctg gagtgcaatg gcatgatctc cgctcactgc aacctccacc 12420
tcccgggttc aagtgattct cctgcctcag cctcctgagt agctgggact acaggcgtgt 12480
gccaccacgc acagctaatt tttgtaattt tagtagagat ggggtttcat taataatcat 12540
taatattaga caactgtcag actcacagtg gtggatacaa actttctcaa attctgattt 12600
ttactctaaa gctcaaattt tatcattggc aacaaatatt gtcagttgct ttccctgaac 12660
agacagcttc ccttcttca tttttgagaa aatatctgcc agtatcccag ttggtttatc 12720
aatcattctt tctctttttt tttttgagac ggagtctcac tctgtcaccc aggctggagt 12780
gcagtggcat gatctcggct cactgcaacc tccacctccc aggttccagc aattctcctg 12840
cctcagcctc ccgagtagct gggattacag gggctagcag ccacacctgg ctaatttttg 12900
cattttagt agagacaggg ttttaccatg ttggccaggc tgatcttgaa ctcctgacct 12960
catgatatgc ccaccttggc ctcccaagt gctgggatta caggtgtgag ccattgcgcc 13020
cggctctatt atttcttttc tttctttctt tttctttttt ttttttgaga tggagtttcg 13080
ctcttgttgc ccaggctgga gtgcaatggc gcgatctcgg ctcaccacaa cctccgcctc 13140
ccgaattcaa gtgattctgt tgcctaagcc tcccgagtag ctgggattac aggcatgtgc 13200
caccacaccc gtctagtttt gtattttat tagagatggg ggtttctcca tgttggtcag 13260
gctggtctcg aactcccaac ctcaggagat ctgcctgcct cagcctccca aagtactggg 13320
attacagttt tgagccacct gacccggttt gcttattatt tcttttaaat ttaaaaaata 13380
ataaataaag gggccatgag agcgaagagt ttgagaaagg ttggtctaaa ggttttaaca 13440
taagaatccc tgggttattt gcttaaaaag aagaaagaat ctatggatct gcctgagagg 13500
gtctgatgta gtttatctgg ggtcatcctc acaggcatag cagatattct gattcagatg 13560
gtccttggtc cttagtttga gaaatgtggc tttacaaggc ccatagaata taaagtcttc 13620
tttggattag tgaagtcatg tccacagggt ttagaaaatg tttttgtttt agagataaag 13680
gtaagtggaa gagtagacat gtagtgaatg agggaaaatg ttttagagat ttctttttat 13740
tctgtttact cttcttggta tgcacgtacc tgaatattaa ggatatttta tgaagtcatg 13800
acattaccag attaatgttg gtttttgtttt aaggtacttt ctgactgctg gggttaattc 13860
ctacagacga ttctggtaaa gaatagcctt taagttttaa aagtgttgac ttatttcaga 13920
tgtcttaata aagttaactt ccagttatta catgtaacgt atataaagct ctcattttcc 13980
tttattctcg ttaattgttt gcataacaaa ttcaaaggga aatttgcttg gcagagatca 14040
gatagcagag atgagattta aaaacaggta atttggctac tagcctggga gtttgaagat 14100
tccaagtttg catccatgtg tagtcactta acatttctgt ccttatctgt aaatgggaat 14160
aacacctact tgatagggtt gttacattat cttggccacc tcaggttctc tttggctgag 14220
tgattgactg gaaaacgcaa tgtgaattca tgcttcagac tgggttcttt ttttttttt 14280
tttttgagat ggagtttcac tcttattgcc caggctggag tgcaatggca cgatctcagc 14340
tcactgcaac ctctgcctcc caggttcaag cgattctcct gcctcaggct cccgagtagc 14400
tgggattaca ggcatgcacc accatgcctg gctaattttt ttgtattttt agtagagacg 14460
gggtttcact gtgttggtca gactggtttc aaactcctga cctcaggtga tccacctgct 14520
tcagtctccc aaagtgctgg gattacaggc atgagccacc gcacccagcc caggctaggt 14580
```

```
tctatatggg tgtgcttttt agaatttaga tcatgggcta tccccaacac aaactggata 14640
atgtttcttt ctagattctc tctaagcgtg tattctcttt ctttcctagg cacagccacc 14700
acttcactta cattgtggga ttataatttc atgagtagtg gaatttcctt aaccttctct 14760
tgtgtgggag ctgaaggaca aaatgagata ttctctgaag agtggttaca tcatgcaaaa 14820
ctatgatgtg taatgaggtc acttagtttt ctaagtacat tatacatttt gataagattt 14880
tcatagaaaa gcttgtctcc ttggggagat cactcatctt ccatcttgac tattatttaa 14940
actttatggg tcagatttat ctttttaaaa acttaaccat aaagctcaat taattttttt 15000
tttttttttt tgagacggag tctcgctctg ttgcccaggc tggagtgtag tggcgcgatc 15060
tcggctcact gcaagctctg cctcccaggt tcatgccatt ctcctgcctc agcctcctga 15120
ctagatggga ctacaggcgc ccgccacgat gcccggctaa ttttttgtat ttttagtaga 15180
gacggggttt caccgtgtta ggatggtctc gatctcctga cctcgtgatc cacccgcctc 15240
ggcctcccaa agtgctggga ttacaagcgt gagccaccgc gcccggctca attaatatat 15300
tttaaaaatt aatagacttt attatttta ttttatttta ttttgaggc agagtctcgc 15360
tctgtcaccc aggctgagtg cagtggtgtg atcttggctc actgcaaact ccacctcccg 15420
ggctcaagtg attctcctgc ctcagcctcc taagtagcta ggattacagg tgcctgccac 15480
catacccggc tagttttttgt aatttagta gatacgtgtt ttctttcttt tcttttcttt 15540
tttttgagat ggagtttcac tctttttgcc caggctggag tgcaatggca tgatctcggc 15600
tcactgcaac ctccgcctcc caggttcaag tgattctcct gcctcagcct cccaagtagc 15660
tgagattata gttgtctgcc accacgcctg gctaattttt tgtatgtttg atagagacag 15720
ggtttcacta tgttagccag gatgtctcga tctcttgacc tcgtgatccg cctgccttgg 15780
cctcccaaag tgctgggatt acaggcgtga gccactgcgg ccagtctaga ctttattttt 15840
taaagcagtg ttagttttac agaaaaatta tgtggaaagt acagagagtt tccatatacc 15900
ccttactttc tcccacaact tctattatta acatcttgca ttagtatagt acgtccctta 15960
caactaatga accaactcga tacattatta ttaaccaaat tcctgagttt attttatttc 16020
tattttttatt ttattattat tattttttag aggtagggtc tcactgtgtt gtccaggcca 16080
ggttgcagtg gcatcatcat agcttgctat agcctgaaac tcctgggctc aagcaatcct 16140
cctgcctcag tctcccaaag tgttgggatt acaggtgtga gccactcgt ccagcctgaa 16200
gtccatagtt tacattacat ttcactctgt tgagcattct atggatttttg acaaatgtgt 16260
gatgatgtat atttgccagt acacaattat ataaaatagt tttactgccc tagaaacccc 16320
ctgtgctcca cctattcatt cctctgctga accactggca accactgatc ttttataata 16380
tctccatagt tttgtctttt ccagaatgtc atatagttgg acatacagtg tgtagccttt 16440
tcagattggc ttctttcagt aaatgatatg catttcaggt ttcttcatgt tttttttgtgg 16500
cttgataggt tgtttctttt cattggtgag taatactcta ttgtatggat ataccacatg 16560
ttgtttatca aacattcacc tgaaggatag acatcttggt tgcttccaag tttgagcagt 16620
tatgaataaa gctgctataa acattccagt gcaggacttt tcacctcctc tggataaata 16680
tcaaggagtg caattgctag atcatatggt aagagtatgt ttagttttgt aagaagctat 16740
caaactatat tcaaagtgac tgtaccatta tacattccca tcagcagtga gtgagagttc 16800
ctgttactcc acatcttcac cagcatttag tggtgtcagt gttttggatt ttagccatttt 16860
taatgggtgt ataatggtat acctattaaa attggttttt tttggagaca gagtttcaca 16920
gtttcactct tgttgccctg gctggagtgc aatggcgcaa tctcggctca ctgcagcctc 16980
cgcctcccag tttcaagtga ttctcctgcc tcagcctccc aagtagctgg gattacaggt 17040
gcacgccacc atgttctgct aatttttttg tatttagta gagatggggt ttcactgtgt 17100
tacccaggct ggtcttgaac tcctgagctc aggtaatcca cctgcctcag cttcccaaag 17160
tgttaggatt acaggcatga gccaccgcac ctggcctcaa tttttttttt ttttttttg 17220
agacagagtt ttgctcctgt tgaccaggct ggagtgcagt ggcacaatct cggctcactg 17280
caacctccgc ctcctgagtt caagcgattc tcctgccaca gcctcctgag tagctgggat 17340
tataggcgcc cgccactacg cctggctaat tttttttttt tttttaatta gagacgaggt 17400
ttctccatgt tggtcaggct ggtcttgaac tccccgttct caggtgatcc gcctgcctca 17460
gcctcccaaa gtgctgagat tacaggtgtg agccaccgtg ccccgcctgt tttggctttt 17520
actgtgaaga cgtgttagcc gctgtgatga ctagcaagtg tggccctcca cccagtcgct 17580
ctgggctccc agctcctgca tcctgctgca aacttgacat cttccctcaa gtaacttgta 17640
gttgtctcct gtctacttgc ccaaaatata actcttaaac ttttctctct gcaagtttgt 17700
gcctctctcc ctgtctgact tccccatcta aataaatggt agaccaccat ctactccttt 17760
gtgcaagcca gaaatctagg aatcatcctt aaattccctg ttctgtctta tctctgcttt 17820
cattcaaagc atcagcaaat cctgttggtt ctacctctga agttttctca aatactgtta 17880
cttgactcat cctgactttt gtttctgctt tatgttaggc taaatgccct gaaaactctt 17940
ttgtacaaaa caccctagaaa tactggataa actgggctta acagggaggc ccggtgtggt 18000
ggctcacgcc tgtaatccca gaactttggg aggccaaggt gggtggatca cctgaggtca 18060
ggagttccag accagcctgg ccaatacgta gtgaaacccc acctctacta aaaaaaaaa 18120
aaaaattag ctgggtgttg tggtgcacac ctgtaggtgg tgcatgcttg aacttgggag 18180
gcggaggttg cagcgagctg agatcgcgcc actgcacttc agcctgggtg acagagcagg 18240
attctgtctc ttaaaaaaaa aaacaaaaaa agaaaaacag gaaaatcttc agaagcaaaa 18300
accaaacaat ctcaccaaag aaatgagaag atggctgggc gcggtggctc acgcctgtaa 18360
tcccagcact tgggaggcc gaggcgggca gatcacccga gatgggcaga tcacccgagg 18420
tcaggaattc gagaccagcc tggccaatat ggtgaaaccc cgtctctgct aaaaatacaa 18480
aaattagcca ggtgtggtgg caggcgcctg taatcccagc tactcaggag gctgaggcag 18540
gagaatcgct tgaacctggg aggcggaggt tgcagtgagc cgagatcatg ccactgtact 18600
ctagcctgga cgacagagca agactctgtc tcaaaaaaaa aaaaggctgg gtgtggtggc 18660
```

Page 33

```
tcatgcctat aatcctagca cttttgggagg ccaaggtggg cggatcactt gaggccaggt 18720
gaacatggcg aaaccccatc tctactaaaa atactaaagt tagctgggca tggtggtggg 18780
tgcctgtaat cccagctact cgggaggcga ggcaggagaa tcgcttgaac caggaggtgg 18840
aggttacagt gaaccgagat ctcgccaccg cactctagtc tgggcgacag agcaagactc 18900
cgtctcaaaa aacaacaaca aaaaaccaac acatggccaa agtgcagtga cttacatctg 18960
tataatccca atgttttggg aggctgaggc aggaggatcg cttgagtcca ggaatttgag 19020
accagcctgg gcaacataga cctcatcacc aaaaaaaaaa tattttttaa ttagctgggt 19080
ttggcagcat gtacctgtag tcctagctac tcaggaggct gaggtgggag gatcacttag 19140
gcccaggagt ttgatagttc gaggttatag tgagctatga tcctgccact gcactccagc 19200
ctgggccaca gagtgagacc ctgtctctta gaaacaaaac aaaacaaaaa aaagaaactg 19260
aattaaaaac aacaagaaca aaaatgctgc tttttgttat tgagttgtag cccaagtttc 19320
ttgagggtaa agcattgaaa agcaggcagt aatagatttg ctgtttaaag agatttactt 19380
gcagcactat tcacaatagc aaagacatgg aatcaaccta aatgcccatc agtgacaaat 19440
tggataaaga aaatgtggta catacactgt ggaatactat gcagccataa aaaacaacga 19500
gatcatgttt ttgtttgttt gtttgtttgt ttgtttttga gatggagtct tgctctattg 19560
cccaggctgg aatgcaggtg gcacgatttc agctcactgc aacctccgcc tcccaggttc 19620
aagcaattct ctgcctcagc ctcccagta gctgggatta caggtgccct ccaccatgcc 19680
tggctaattt ttgtatttct agtagagatg gggtttcacc gtgttgggca ggctgttctt 19740
gaactcctga cctcatgatc ctcccaccct ggcctcccaa agtgccggga ttacgtgtga 19800
gccaccgtgc tcggctgaga tcatgttttt gcaggaacat ggatggagct ggaggctatt 19860
atccttagca aagtaatgca ggaacagaaa accgaagacc acgtgttctc acttataagt 19920
gggagctaaa tgataaggac ttgtgaacac aaagaaggaa accacagata ctggggttta 19980
cttgagggtg gagagtggga ggagggagag gaacagaaaa gataactatt gggtattggg 20040
cttaatactt aatatttat caaaataagc tgtacaacaa acccctctga catgagttta 20100
cctatataac aaacttgcac gtgtaacccc aaacctaaaa taaaagttaa aaaaaaaaaa 20160
aaaggctggt tgcattggga ggctgaggca ggcagagcac ttgaggccag gaattcgaga 20220
ccagcttggc taacgtggag aaaccctgtc tctactaaaa attcaaaaat tagccaggtg 20280
tggtggtgca tgcctgcagt cccagctacc agggaggctg aggcaggaga attgcttgaa 20340
ctcaggaggc agaggttgca gtgagctgag attgcaccac tgcattccag cctgggcgac 20400
agggcgagac cttgtctcaa aaaacaaaac aaaacaaaac aaaaacctgt cactttggga 20460
atatctcaaa cctagtcatc caagtggttg tacgatttta gtgtctgcat atcaatattt 20520
agtgtgatct actttcttag attctcaaat actgccaatg ggcacatgtc atgaaataat 20580
gtcttttaga ggacaagaga gtgctaaagt ctcattattg cagtttaaga aaaacaattc 20640
tgtaacagtt taactttata ggaaatgcct tttgtttatt tatttttttt cttttgaggc 20700
ttagattttt attttatgt ttttagagat ggggtcttcc tatgttaccc aggctggcct 20760
tgaattcctg ggctcaagtg atcttcctgc ttcagcctcc tgagtagctg ggactagacg 20820
tccactactg ctcctggctg gaagtttaga ttttaattta aactcttcta ttgggaaact 20880
ttgtatgttt gctttaccac ttaacatttg catgcattat tgtacctatt gtctcctact 20940
taaggaaggg cagtttatgc tgttatatga agtgaattaa cctcctatgg tacttcagtt 21000
ttctctatgc taaaagtgtg ttctagattt ttgaaaaact tacttaattt tcattcattt 21060
attcaaatat ttgagcattc tgtagttgct ggggaaatag cagtgaactg aagaatgtct 21120
ttgttcttat ggggcttaag ttcctagttg atcatattgg aaggagatac atgaaaaaag 21180
aaatatatga acaatggagg gcgatgagta ctgtaaagga gaattcagca ggggagatgt 21240
tgctgtttta gatagagggg tgtcaagaga cattgtgcag agacctgaac gaagtgaggg 21300
agcaagccat ggagatatct agggaaagag cctatcaggt ggagagaaga gtcctagggc 21360
agaaacgggc aaggtgtgtt ccaggagcag agagggaca gctgtgaaca aggggagagt 21420
tgtagggaag gaggcaaaga gagacatctg gggcaaaatg gattgactgg tgggccgtgg 21480
taggactttg gattttttcc tgagtgggtt ttgagcaggg gaatgaaatg atctgactct 21540
ggttttttt ttttttggag acaaaatctt gctctgttgc cgaggctgaa gtgcagtggc 21600
gcaatctcgg ctcattgcaa catctacttc ctgggttcaa gctatgctcc tgcctcagcc 21660
tcccgagtag ctaggattac aggcttgggc caccatgccg gcgaatttct gtttttattt 21720
ttatttttta tttatttta tgtttatgtt ttttgagacg gagtctcgct gtgtcaccca 21780
ggctggagtg cagtggcgcg atctcagctc actgcaacct ctgcctcccc ggttcaagca 21840
acttctcctg cctcagcctc ccgagtagct gagattacag gcgcctgcca ctacacctgg 21900
ctaatttttg tattttttagt agaaacaggg tttcaccttg ttggccaggc tggtctcgaa 21960
ctcctgacct taatttatgt gctcgccttg gcctcccaaa gtgctgggat gacaggtttg 22020
agccaccgtg ccagccagga ctcttatttt gaaaggatct gtaatgtgga gaatagaagg 22080
tagagggaca aggatgaaag catccaggcc agttagccta gtccagctat ctaggtaaga 22140
gatgctggtg gcctggatta aggctgcgtc agtgggaggt tgtgagaaag gctcaccttc 22200
cttttttttt tttttttttt ttttgagac aggatcttac tctgtctccc aggctggagt 22260
gcagtggtgc aatctcagct tactacaacc tccgcctcct gggctcaagt gatacccca 22320
cctcagcctc ccaagtagct gggatcacag gcttgcgcca ctatatccgg ctaatttttg 22380
tatatttcgt agagacaggg ttttgccatg ttgcctaggc tggtctcaaa ctcctgagct 22440
caagtgatcc acccgcctca gcctcccaaa gtgctgggat tataggcctg agccattgtg 22500
cccggtcact tccagatttt gaagacagag ccaacaggat ttgttaatgg attaggtgtg 22560
gcaggaggag ggggaggaag agagagagag actggagttg aagttaaggc tcatttcaag 22620
gtttttagcc tcaacatgtg caggaatgga gttgtcactt gctagaatgg gggagactgg 22680
aggagaagcc ggctgggaga ggttttaat gaaggggttg gctttggata cattaagttt 22740
```

Page 34

```
gacatgcatt ttagacatcc aggtggagat attgaagagg cagttggcta taagtgtctg 22800
atgttcatat tagcggatgg ggctagagac ataaatttga gaattgtcag tgtataaacg 22860
ttgttttgaa agaaagtggg gctgaataat ttagaaagga gtgcatagag aaaataagtt 22920
tactattaaa atagctttaa caggccgggc acggtggctc atgcctgtaa tcccagcact 22980
ttgggaggct ggggtgggca gatcaaaagg tcaggagttt gagaccagcc tggccaatat 23040
ggtgaaaccc tgtctctact gaaaatacaa aaattagcca ggcgttgtac cgggcacctg 23100
tagtcccagc tacttgggag gttgaggcag gagaatcact tcaacccggg aggtggaggt 23160
tgcagtgagc caagatcacg ccactgcact ccatcctggg caacagagca agactccgtc 23220
tcaaaaaaaa aaacaaaaaa aaacaaaaaa aaaaaacttt aacagcaaag cctcttcctt 23280
taaaattatg aatttttttc ttatggaagt tggactcttt cattattaag tctacattca 23340
atcactatgt tagtaaaaat gttgttctag ttgccgaatg caataaacca gctcagactt 23400
agtggcctaa agcagcaatc atttgactat gttcgaagat gccgtgggca ggaatttaga 23460
taacagcagg gatggcttgt cttttgctctg cgatgtctga ggtctcactg agaaaactca 23520
agcggctggg ggtaataatc atctggaatt ttctttactc ctgtatctga tgtctgggct 23580
gcgatgactc aaaggctgat ttcagctgag actgtagacc acgtgcctac ttgtggcctc 23640
ccctttttgcc ttgggtttct cacagaatgt ggctggttct ggagaatgag acttccaatg 23700
aaatcaggtg gaaatgacat ctcgccgctt tcagcatgct ctattggttg gaacagttat 23760
ggacttagct agattcaaag gaagggaaca aagaccccct cctctcagag agtggggcat 23820
aatgagagaa tttagggcca tgtttatccaa ccaccacaaa tgccttctga atttgaggtt 23880
ctgcctcaaa agttcatagt tcctttgact gaaggacttc tatatatcca agcatcgtca 23940
gccccaggta tattgttcca tgtaagtgac caggactacc ttagtatttc gtatagggaa 24000
agtgacctga ataaatttga gaaaagaatc ttccttctct ccagtaagca ctgaggtaag 24060
cattgagcca tattataggt ttatgacttt gagactcaga aatttaaatt cttggccagg 24120
cgcagtggct cacgcctgta accccaacac tttgggaggc caaggcaggc agatcacttg 24180
aggtcaggag tttgagacca acctggccaa aatggtgaaa ctccatctct acgaaaaata 24240
caaaaattag ccaggtgtgg tggcgggcac ctgtaatccc agctacttgg gaggctgagg 24300
taagagaatg gcttgaagttc tctttatctg ctttatttca gttgcctctc ttagatgaat 24360
attaatgact tacatagcat tttagatcag tggatgtttt tgtgattctt ttatttgagc 24420
tttggccaaa gataacagta cccacaggtt ttttccagct actcgctctt ctcccttcag 24480
tggccctcga gcctggaaaa tctgacatga caatgtgctt gctcaaccta ccactgtttt 24540
tcttttgaaa agtttggcag cctgtttctg actcctatga aggtgaattc ctcagcattc 24600
acagtttatt agaaaaatac tttgcttctc tccaaactcg aaattcaaga taaccaaacc 24660
tatatatagg ctgatctttc aggatgcagt tgtcatgttg atgccatgct tttcagtatc 24720
gtggccatca tctgttcagt agggggaggtg tacttctgta atgggaggtg gtggttatgt 24780
gtgtgtgcaa gtgtttattt ggtgtcttaa gttagcctgt gggaagttct aaatcaggat 24840
ggtacgtggt tgccagcaga gagctgctcc tcaagtgagg gaggtagaat caaagccaat 24900
aggaaagagc ctcagatgct tatatatgta ccgtgggat tcagagtgaa agcagtcatt 24960
ggactagggg tggggttagg gagagccgt ctgacagaca caagaaaggg atggataacg 25020
ccacccagag aaaaaagcat tttaggcaag aacaaatatg aaaaaggaac aaagtctgtg 25080
ggtggggggc aaggaggaga taagttgact tgaaggaaga caacacttat gaaagtcacc 25140
tggaggctgg gtgccatggc tcatgcctat aatcgcagca ctttgggagg ccgaggtagg 25200
aggacaactt gagcccagga gttcgagacc atcctgggca acatggtgag actgagtctc 25260
taccaaaaaa aaaaaaaaaa gaaaattatc cagacatggt ggcatgtgcc tgtaatccca 25320
gttactcagg aggctgaggt gggagggttg cttgagccca ggaggttgag gctgcagtga 25380
gctgtgatcg tattattgca ctccagcctg ggtaacagag caagaccctg tctcaaaaaa 25440
tgaaagtcat ctgtaggctg agagagagaa ctggaagggg ctaaagttgg ctgagtagtt 25500
acagagcctg agataagggt aaagattttg cattggacaa tgagatgtta gtgtgtgttt 25560
ttgagctggg gagtgctgtg attttactct tattgaagaa tcactgaagg attattcttg 25620
aatcagtgat tcttgatcat tcttgaattt ttcaaacagc aaaactggaa gagttggcct 25680
attcctcaga atattttcta attgggcgca gtgtcctcac ttgggagaac ctggctacac 25740
actttagttg taattcactc cagtcgttca ttcattcaat acctattttt tcagcaccta 25800
ttatgagcca gacactatgc tggatgccag ggttcagggt aggacacgct agtgagcaaa 25860
agccaagact cttcttgtct tcatggggct ttcagtccag catagtggtt atgagtccaa 25920
gttaatggag tcacagtact tgggtgcaag tcatggtgat ggtgatagaa ggaaggcatg 25980
tgtgagggcc agtggcaggc aggagcctgg tgtttttgag gacctgaaga aggagcagag 26040
tgagtgccag gaacttagcc accagctggt accagccata cgagaggggc agagccagcc 26100
aggatgtcgg tcatgctagt aatgagtaca aacacttaca tgctgcacgc tattgggctc 26160
ctgagtgcta cgtgttcatt agctcgatga atttgtacag caaccctgtg aggtaagcac 26220
tgttctctcc cctttctata gatgaggaaa ttaaggcaca aagaggataa ataactggca 26280
ccagctacac gctaagtgat cgaagtggtg gaaccaggat tcaaatccat gctattctgc 26340
cttaagataa caaatcttgt tttttagcct aagaacagag cagtcatcag gagggttta 26400
agtaggggtg tggcaagatc aagtttgtgt cttgaaaagg tctctctacc cacagtgtgg 26460
aaaatggcct ggaggcaagc acacagatgt tgggagacag ttaacagctc ttgccatggc 26520
cccctatgca ttttggctct gatgtttctg cctgattttt ctcttgcctc tgcctctttt 26580
cctgagggga tggcaggttt taccattcag ctggagtaca aaccctgaac ccttttttggt 26640
taaatatcta cttgctttc ctacagtatt attttgagtt gctgtggctg taatgtcttg 26700
agggaatcga gcttgacagt aatttataga acaaacagtt tttagagact gtgtggccca 26760
attgccctct caatgttggc actcctgcca tgacatttac catgctgagc atgtgaccgc 26820
```

Page 35

```
catctgaata ccaaatgcca caggaacctg ggaggttgtc acttactcct ccctttctct 26880
gagtcacctt tgcccttcag tcagtcacca agtcccatca catgtagctc tgtaatgtca 26940
cagaagatgg atgtctgcct caaaacactt acaatgctgc tacctaaatt gggcagccac 27000
gacctcccac caggattatt gcagcctgag ggatcttttt gaaatgtaaa tcaaactatc 27060
acttgtctgt ttaaagcttt tcaaagactt accccattgc ccttggaaga aagtgcagat 27120
atcttgacag gagagccttc tccagcctcc tcttctgccg tggtctcctt gtacagtctc 27180
tacagtgtac tgcttcatta gaaccctgga gattattatt tgctagttct gggctaagaa 27240
ctggcacctg gctttgtaga gctcctcagg agattctgag gcgtattcag agttgagccc 27300
tgatctctgc tctgatttcg aggttctcgt tatatttatt aatgatcacg aaaaaattta 27360
ttattattct ttggcctcac tttagcatca tctgaggaat tttttttttt ttttgacaga 27420
gtttttgctct tgttgcccag gctggagtgc aatggcgtga tctcagctca ctgcaacctc 27480
cgcctcccgg gttcaagaga ttctcctgcc tcagcctccc aagtagctga aattacaggc 27540
atccaccacc atgcctgcta atgtttttgt attttttagt agaggtgggc tttcacagtg 27600
ttggtcaggc tggttttgaa ctcctgacgt cagctgatcc acccacctag gccccccaga 27660
gtgctgggat tacaggtgtg agccaccgtg cccagccgta gctttcgaaa tttgaaacct 27720
ggtcccactg tcagaggttc caatttggca ctggtttggt tcccaggcat cttttcttgct 27780
gtatatattt tttagtgtca gccagggtgg agacctctgt attacttcat ggggaagaat 27840
ttgggagaag atgttgtgag gagacaggt ctagtcctag agtgatttat cctttctcgt 27900
acagatttcc aggtatttga ggggccactc ttctgtaatt catgtttttc tctcctaacc 27960
tcactcctgt tgcctgcatc ttcttgctga gcaaaatatt caaggtcttc aactcctcac 28020
accctggttg tccctccctg gatgtgtttg gttgtttag tgttccattt caattttgat 28080
acacagaatt agaatagcat ccagatgtgg gtctgttaca gctagactac tagatccttc 28140
aaaatccaag tactagtatg tctattaaaa taccataaga tcacattggc tagttacaat 28200
ggttggtttg tgggttactt aaaaatcaac taaaattctt ttttttttt tgagatggag 28260
ttttgctctt gttgcctagg ctggaatgca atgacacaat cttggctcac tgccacctct 28320
gcctcccagg ttcaagcaat tcccctgcct tagcctcctg agtagctggg attacaggca 28380
tgtgccacca tggccagcta atttctgtatt tttagtagag atgaggtttt ccatgttgg 28440
tcaggctggt ctcgaactcc cgacctcagg tgatccacct gcctcagcct cccaaagtgc 28500
tgggattaca ggcgtgagcc actgagcctg gccaaaattc ccactttcta atactcctgt 28560
agtagctggg tacggtgggt cacatctgta atcccagcac ttttggaggc tgaggctgga 28620
ggatcgcttg agcctaggag ttcgagacca gcctgggcaa gatggccaga cgccatctct 28680
aatttaaaaa aaagaaaaaa caagactcct atagtggtga agaacagaca ttccgaaaac 28740
agactgtgcg ttatgattcc agctccatgc ctttactacc tgtgttgtga cttttggataa 28800
atcacttaaa aatctttttt tttttttttt ttttttgaga cggagtcttg ctctgccgcc 28860
caggctggag tgcagtggcg cgatctcggc tcactgcaag ctctgcctcc caggttcaca 28920
ccattctcct gcctcagcct cccaagtagc tgggactgca ggtgcccgcc actacacctg 28980
gctaattttt tgtattttta gtagagacgg ggtttcaccg tgttagccag gatggtctcg 29040
atctcctgtc ctcgtgatcc acccgcctca gcctctcaaa gtgttgggat tacaggcgtg 29100
agccaccgca cccggccaaa tcacttaaaa ttctgtgcct cagtttctcc tctgtaaagt 29160
gggataaaaa tagtacctat ctgatagggt tgttacaatt atgaaatgag caaataagta 29220
tgtcaagtgt ttaaaacagc gcctggcttc ttgtaaaaag tgctatataa atcatagcta 29280
taatcattac ttatttcgac tgctctttaa ccaaggttct tattttcat cttttttttt 29340
tgttttgaat atcacttagt gttttcacct tttactcttt ttaggaccta gagccatcct 29400
aggtgaaata cgtatggaga tatttgatca ggtcaccacc cagctctcct gacctcccett 29460
ctctccttaa attaacatgc caaatcacag catcactgac tccttccctc ccgatatgat 29520
aagagtgtgc attgaaatgc atgtatttta cttagcaggg aaagctgatt agtgattatc 29580
acacttaacc cctagtgaat ctgatggatt aacctgcttt ccaggacact aaggaaatgg 29640
gtttaagata agaaatatct ggctgggtgc ggtggcttta cgcctgtaat cccagcactt 29700
tgggaggccg aggtgggcag atcacgaggt caggtgattg agatcatcct ggctaacacg 29760
atgaaacccc ctctttacta aaaatacaaa aaattagccg ggtgtggtgg cgggcgcctg 29820
gagtcccagc tactcgggag gctgaggcaa gagaatggtg tgaacccagg aggcagagct 29880
tgcagtgagc tgagattgtg cccaccgcat tccagcctgg caacagagt gagactacat 29940
ctcaaaaaaa aaaaaaaaaa aagtaagaaa tgtccatgaa aggagaccc tggggggaaag 30000
gaacaataac tgcagctctg aggatctggc accagcagca ccagcagcag gggatgctgt 30060
acaaccatta ttgattttaa ctttacaaca gttcttcaaa ggagagagag ttccctgttt 30120
tactgaagag aaagcccatt tggtagtgaa ataccattcc caaagacaaa tagctaataa 30180
atgtcaggca gggttttgca cccaggccca tccagctccc gtctctactg tcctttcccc 30240
cacaccacac tgatacagag gaatgtgtct ggttggggaa gtggaagtgt tcccaagtgg 30300
ggaggtcatc tgatgcacaa atttggtctg ttttgtgggt tttcttgttt tagtttagt 30360
ttttgtagag ctcagacctg ttcttaggca gctttaacaa tcaactgtgc actcagtaat 30420
tgacaaatca tgtttgttac ttttaattta gaggaatta ggtttgttaa gctcttgctc 30480
cttctttaga gatggggtct agctctgtca cccaggctgg agcgcagtgg tatgatcaca 30540
gctcactgca gtctcaatct gctcaagtga tcctcctgcc tcagcctcca tgggactaca 30600
agcatgggcc accatgcctag gctaattttta aaaaatttt tttgtagagg caaggtctca 30660
cggtgttgcc caggctggtc ttgaactcct gagctcaagc aatccctctt ccaccttggc 30720
ctctcaaagt gctagaatta taggcatgag ccaccatgcc tggcctttac ttctttcata 30780
tattcaaatt ttgtcatatt agtagggaac tataactcaa gttttcttat agattgatgt 30840
tcatttttac aagcttgatc gtcattggtt tttaatttta aagcaaatcc tgttatatgt 30900
```

Page 36

```
aattgaacat tacagtaatt atagtaattt gtttcagatt gggcactcaa gtgttaatat 30960
tttgtctctt taggaaatca aaactagatt tatatataga cttcttattg caagtatcta 31020
gtcttaaatc ttacaaaggt actatttgga cttaaaacta tgaaattgtg tgcttactat 31080
ataagtgtac ttattttgag ttatgtttta aacttgaaat tccattctta atgtctagag 31140
taattatgaa tggttaaatt atgaatgact ctaatagttt aaagctacag tatttattta 31200
tttatttatt taatttattt tttgagatgg agtttcgctc ttgtcgccca ggctggagtg 31260
tagtggcacc atcttggttc actgcaacct ctgcctcgcg ggttcaagtg attctcctgc 31320
ctcagcctcc caagtggctg ggattacagg tgtatttcac catgcctggc taattttttgt 31380
atttttagta gagacaggct tttgccatgt tagcctggct ggtctcgaac tcctgacctc 31440
aggtgaccta ccctcctcag cctcccaagg attacaagca tgagccacca cacctggcct 31500
acagtatttt aatgtggact ctctgtcatc cattatgctg tttatcctgt ggtgaaaatt 31560
ttatgaagat tgaatgtttt tctctagcgt gaattgcttt ctcttacttt tctcatttt 31620
ttccttccta atctacttgc agatacttca gattattttt agaacgtggt atggtgagaa 31680
caaataaatt ggggtttcca aatcttaata aattatgtgg ccctcagtgg gattagcagg 31740
gttgtattga aaacaccaat agaaacaaaa tagttctttt atgcgcttta aataaaaatt 31800
tcttttcagg ccaggcgcag tggctcacac ctgtaatccc agcaccctgg gaggctgagg 31860
caggcagatc acctcaggtc aggagtttaa gacaagcctg gccaacatgg tgaagcgccg 31920
tctctactaa aaatacaaaa attagccggg tatgatggcg catgcctgta atcccagcta 31980
ctccagaggc tgaggcatga gaatcacttg aactcaggag atggaggttg cagtgagctg 32040
agatggtgcc actgcactct agcctgggca acagagtgag attctgtctc aaacaacaac 32100
aacaacaata acaaaacatc tcttttcagg ccaggtactg tggctcacgc ctgtaatccc 32160
agcactttgg gaggccaaaa caggagggtc gcttgagacc aggagtttga gaccagcttg 32220
ggcagctggt ctctatttga acaaacaaac aaacaaacac aatactcttt tcatagaaaa 32280
atgtttacta cacaataaac tttaaaagaa tatgcagctg tattaatgct atgactccaa 32340
tgtaaaaaaa aaaaaatata tatatatata tacacacaca caaacacatt ctgaaataga 32400
tttaaaggaa ttacatcaac atgtcaattt ttattttttc ggagacaggg tctcgctgtg 32460
tcacccaagc tggagtacag tggtgcaatc acagctcact gcagccttga cttcctggcc 32520
tcaagtgatc ctccccccctc agcctcccaa agtgctgggg tcacagacca ccacacctgg 32580
caacatgtca gtttttgttc tgcatagtgg gatggtggga tatggatgtt tttatctttt 32640
attttctttt ttatattttt ctaaattttc cacattgaac attatttttat aatctttcaa 32700
acatatctct taaaaggact ggttcctata gaattcagtg caagaaatct tctgtgtttc 32760
tttatacttt ggttgccttg atcactgggc ctttcctgac agcaaagaag aggttagtgt 32820
aggcagcaga taaaacacag gtatgctcta tttaaaatgc atgtatttat aataaaagta 32880
taggtggtac ccaaaggaaa atgtcatgac acattgcaaa gtggaacaga agttatcttt 32940
agatcacttt ctgttctgga ttattgtatg agcctgattt tcgtctctct ttccgccttc 33000
cctcacccctc gttgtaaatc cactagtgca tggatgtgaa gtacaagtct taactttaaa 33060
aagttttatg aagctgtgta gtaaatccct tttgtaagtg gtcttgactg cgtttctcaa 33120
tatatctttt ggtttcatta gattcaagta tataaatgag aactgtaact ttggacagac 33180
tttttcagtc atctttacgg taataagttc ccaattagac aatagttatt tgttttatga 33240
cttgctgttg gtaggttatc cccaagggac tgagaaattc ctgttttgaa aagtccaaaa 33300
agtctttgat gacttgctgt ttcattttt tcttttctct tcagttatag aaaacaggat 33360
tacacccacc ttgcctttgt acagtgcatc tactatctgc tgacttaacc tgagtaaatg 33420
ctttgaattg agccccatat aatgtcctaa ggcagcctat atggagtaat gaattgtctt 33480
ctctcttatg cacccagagt ggtagttggc actcaagttg ttcctcagat aactttgtgt 33540
gttctgggggc tcaatgaagt agttattaag tcacaggctt ggggagaaca ttcatcctat 33600
ggcattgaat gaagtgttgc ccaattctag aatgtctaat aaaatttttt taaaaaccca 33660
caggcttaga attattccgt agatatgaag taatgtagtt agaacttagt ggagttcttt 33720
agattaactt gtaatttgaa aaaccaaaat tgaaattgtg aaataacatg ggctctttga 33780
ggtcttttcc agtaaaacag ttacagtaaa gctgcttggc agtgattttc ctagacactt 33840
tggctagtca tctcctgtga ctgctgttaa ttaaatatgg tttgtagcta agcagcctgt 33900
aaggagaaga ctatggaagt atttgcatat tctctccttg aaaatactac ctggtctttg 33960
gctttaagtt atacttttat tttcccctgt agaataacta ttaaagtatt acctatggtg 34020
attagactaa gaagtaaaac atgaaatcag tcattgttgg tgccctggtg ccttctttt 34080
tttttttttg agacagagtc tcactctgtt gcccaggctg gagtgcaatg gcacgatctt 34140
ggctcactgc aacctctgcc tcccaggttc aagcgattct cctgcctcag cctcccaagt 34200
agctgagact acaggcgccc accaccacgc ctggctaatt tttgaatttt tagtagagac 34260
agggtttcac tatattggct aggctggtct caaactcctg accttgtgat ccgcccacct 34320
cagcctccca aagtgctggg attataggtg ttagccactg tgcccagcct ggtgctttaa 34380
ttttatggaa aaaactacta gctggtttct gttttaagaa ataacacagg ccgggtgcca 34440
tgacttgcgc ttgtactccc agcagtttgg gaggccgagg cgggcggatc acgaggtcag 34500
gagtttgaga ccagcctggc caacatagtg aaaccccgtc tctactaaaa atacaaaaat 34560
tagccgggcg tggtggggca tgcctgtagt cccagctact cgggaggctg aggcaggaga 34620
atcgcttgaa cctgggaggt ggaggctgca gtgagccaag atcgccccac tgcacaccag 34680
cccgggtgac agtatttcat ctcaaaaaaa aaaaaaaaaa aaagaacaca attattgtac 34740
tacttactag ccctcctctg tccccagcta aaaataagaa cagcaacaac caaaaaatcc 34800
ttagttatgt actggaaatg aattagataa ttttcaataa cttacacgtt tttaggatat 34860
gttagtttga aaatgcaaat attcatgcat gaccccagtg ttaatctatg atggagcagg 34920
tatagtggga tgctgtttca tgatttaatt tggaccttca gggagtagac tgtgatgcct 34980
```

```
ctgcatttgt atccaagaca aataattaaa tagtctattt ttggctgggc atgatgcctc 35040
atgcctgcag tcccagcact ttgggaggct gaggtgggag gatcgcttga ggccaggagt 35100
tcaagatcag tctgggcaac aaaaatgagac cttgtctcta caaaaactac aaaaaattag 35160
ctgaacattg tggcttgtgc ccctagtccc agctactcag gtccctgagt taggaggatt 35220
gcttgagccc aggagttgga ggttacagtg atctatattt gccactgcac tccagcctgg 35280
gtgacagaga gagaccctgt ctcaaaaaat aaagtctgtt tttaaaatta attttaaaca 35340
ctggagttta ttacaaaaag cagttggttc tttttttaaa tcattttttt ttaggagaac 35400
caccgctttt tggctacatt gtctagagta gcagtgttca ataaaaataa gatccaagtc 35460
acatatgtaa tgttaagttt tcttttagtt tcttttttctt ttcttttctt ttctcttctt 35520
tctttctttc tttctttttt tttttttga tatgcagtct cactctgttg cccaggctgg 35580
agtgcagtgg cacgatctcg gcccactgca acctccgcct cccgggttca agcaattctc 35640
ctgcctcagc ctcccgagta gctgggacta caggcatgtg ccaccatacc cagctaattt 35700
ttgtattttt agtagagatg gagctttgcc atgttggcca gtctggtctc aaactcctga 35760
cctcgggtga tccacatgct ttggcctccc taagtgctgg gattacaggc atgagccacc 35820
atgccctacc aatgttaagt tttctagtag ccatattaaa agaagtaaaa agaaatgggt 35880
gaagttaatt ttaataatat attttatttta acccaatata tctaaaatat tatcatttca 35940
acatgaacaa gatactttac attctttttgt ttttcactaa gtccctcaaaa tccagtgtgt 36000
attttatatt gacagcatag ttcagtttga agcagccaca tttcaagtgc tcagtagcca 36060
catgtggcta gtgactccat actggactgt gtaggtttag agtttcagta aatttgtatg 36120
caatagaatc tacataaatt ggcatattat gcagatttct ttgtatgcac atcagttctt 36180
gcatagcata agtcaggtca tgatgctttt agtctatgag gcagattttt tttttttttt 36240
ttttgagaca gagtctcact tggtcaccca ggctggagtg tagatgcaca atcttggctc 36300
actgcaacct ccatgtgagg cagattttaa cttggcccta atgcaaatat tgtaagagag 36360
atctaatggc ctttgatttc ttacagaggg caatcaatac atgccatggt tacaatgctt 36420
cagcatatag tatgcacgtc agccactgct tttactctgg ctagtgctta gtgtacctgt 36480
accactgccc aggcagcatt tgtcctgtgg caggtgaatc ttagggtgga aggtggcaag 36540
taacattgct ttttttgag agggagtctt gctgtattgc ccaggctgga gtgcagtggt 36600
gcgatctcgg ctcactacaa cctccacctc ccgggttcaa gtgattctcc tgcctcagcc 36660
tcctgagtag ctgggattac agacggccac caccatgctc ggctaatttt tgtattttta 36720
gtagagacgg ggtttcacta tgttggccag gctggtctcg aactcctgac ctcgtgatcc 36780
acccgcctcg gcctcccaaa gttctgggat tacaggtgtg agccaccgtg cccagcctac 36840
attttaaat taattaatta taagcaggat ctcactgtgt tggccagact ggtcttgaac 36900
tgataagagt tcaagaccag cctaggcaac atggtaaaac cctgtctact aaaaaataca 36960
aaaaaaaaa ttagctgggc atggtggtgc gtgcctataa tcccagctac ttgggaggct 37020
gaggcaggaa aatcgcttga acccgggaga ctgaagttgc agtgaggtga gattgcacca 37080
ctgcactcca gcctaggcga ttccatctca aaacaataa caacaaaata acattgttgg 37140
aatatttagt taatttatag aagcgtattg gcctaattgg ggcaaatacc ttattctgac 37200
attctctcta tttgctttac tgagctttt caccagtgga atttaagccc ttgatacatg 37260
aggagggaaa ataccttgga gctgtgctgc acatgtaaag tacacaggag atttagaaaa 37320
cttcgtagca aaaaaaagag tgtaaagtat ctcattaata gttttgtgg gctggacacg 37380
gtggctcaag cctatactct tggcacattg ggaggctgag atgcatgagt ctaggagttt 37440
gagaccagcc tgggcaacac agtaggaccc cgtctctaca aaaataatca gccagatgtg 37500
gtgcgcatct gtagtcccag ttacttgaga ggctgaggtg ggaggatcgt ttgagctggg 37560
aagttgaggc tacagtgagc tgtgattgaa ccactgcact ccagcctggg tgacagagtg 37620
cctgtctcca aaaataaat aaataaataa taatatgttt tgtatgttca tatgttgcaa 37680
taacattttg gatatattaa atgaaataaa atacattaaa attaatttca cctgtttctt 37740
ttcttttctt tttttttttt tttttgaga tggagtctcg ctatgtcatc aggctggagt 37800
gcagtggcac gatctcggct cactgcaacc tcctcctcct gggttcaagc gattcttctg 37860
cctcagcctc cctagtagct gggattaaag gcatgtgcca ccacacccag ctaattttg 37920
tatttttagt agagacgggg tttcaccata ttggccagga tggtctcgat ctcctgacct 37980
catgatccgc ctgccttggc ctcccaagt tctgggatta caggcgtgag ccactgcacc 38040
cagcctcttt taacttttta agtatggcta ccagaaaatt taaaatgcat gtgtggcctg 38100
tattctatttt ctgttggatg ctgctgcctt agattattaa ttattcaatg taaagactgc 38160
tgggaggtac tacctgcact tccctgaata tatgcttgag agctccacca gccgtcttca 38220
cagtagcaag aggggtattc tgagtctgtc ccccaaagag ggagggagaa gtgcagccct 38280
ctcaggttct gtcagaaaac ctgatcccag gccaggcgtg gtagcttacg cctgtaatcc 38340
cagcactttg ggaggttgag gcaggaggat tgcttaagcc caggagttcg agaccagcct 38400
gggcaacaca gtgaagaccc tatctctaca aaaattttt taaaaaaatt agccaggtgc 38460
agcaatgctg cctgtactcc cagctgcttg ggaggctgag gtaggaggat tgcctgagcc 38520
caggagttag aggttgcagg agttagaggt tccacgatcg caccttttcat tccgttacat 38580
ttgctgcctt gagaacagaa gacctgctgg ttttgttgcc agtttgctca gtcattttta 38640
tgaaaaagcc agtgctaact aggtgcttct tcgtgccttc tctgagaatc aagaactcta 38700
gtatgtttgc gtgtgttcag tctctcatta aatgttctca ctatcccaga gaaccatctc 38760
attggacctt ggtctgtaca taccttcatc tttggctctg acttgtaatt attttttagaa 38820
cttctctttt tttttttttg gagacagagt tttgctctag ttgccagact ggaatgcagt 38880
ggcacgatct cagctcacct caacctctgc cttccaggtt caagcaattc tcctgcctca 38940
acctcttgag tagctgtaat tacaggcatg tgccaccacg cctggctaat tttgtgtttt 39000
tagtagagac agggtttctc caagttggtc aggctggtct caaactcccg acctcaggtg 39060
```

```
atctgcccgc cttggcctcc caaagtgctg ggattacagg cgtaagccac tgcgcctggc 39120
ctaattttag aacttgttaa aacaacttgg cctctattga tatttccatg acccatgcta 39180
ttcagaaaga ggattacagg taattagctg gctgggtttc tcataccaga gcatttcact 39240
gggatgttcc tgaacctggg acaactttta tgcctggcat ttttctttcc ttctctgttg 39300
tcccagacta agcaattttt aaaatagtta ttatttgttg agtaggagaa tctcaggcag 39360
atcttcctgg atcctcattt atactttttaa acctgtagtc ttggaattag tgctctgtcc 39420
cccaacccca aacatccaat ttctacattt tggctacagt acaggtttac tgtgtataac 39480
taaaagggct gtggaggaga aagaaaggaa ccgacatttg ttgggcatct gttatgtgcc 39540
atgcactgag ctggatgctg taggaatatc tcaatacctc tgaggagtgg gaattattat 39600
ctctatttta tagacaaggg aatagaaatc tgggagttaa gtaattttt aatttcacac 39660
acttctggta gataatggat tctagaacct ggcataatag ccacttgtca tcccagtgta 39720
aaagagatgt gtggccagat ggggtggctc acatatgtaa tcccagcact ttgggaagcc 39780
gaggcaggag gatgacttga gcccaggagt tcaagaccag cctgggcatg ttttgtttgt 39840
ctcacgaaac attttttaaa aaatgagtgt ggcatggtgt gtgtgcctta tagtcccagc 39900
tcctcgggag gctgaggtgg gaggatctct tgagcccatg atcatgccat tgcactctag 39960
cctgggccac agagcaagac tctgtcttca aaaaataata aaaaggagct gtgattatcc 40020
caaggtgggg attgtgaatg tgtttgtatt gttctaaact gggagaaaca ggctgggtgt 40080
gttggcttat gcctgtaatc tcagcacttt gggaggccaa ggtgggagga tcacttgagt 40140
ccaggagttc aaggccaccc tgggcaacag gcaaaaaata gagaccccat ctctattttt 40200
taaaaataaa ataaactggg agaaagaagc agggtcctcc ccagagcatc tttatcccta 40260
gtcacagacc tgacacctgt gttgggcaat ggctacttct agattgttta cccctactgg 40320
gacttgtggt gaacatatgc acactttggt ttacagttgg gacccctgat tttagcagga 40380
tggcccaatg gaatcagcta cagcagcttg acacacggta cctggagcag ctccatcagc 40440
tctacagtga cagcttccca atggagctgc ggcagtttct ggcccttgg attgagagtc 40500
aagattggta agtccttctt aagtgactct ccaaattgtt aggtttcagt ttgagtcaag 40560
agacatgaac tcttaatgtc atgccttgct gttccattaa aaaatgtatg ggtacaggtg 40620
atggggaaaa tgagatcagg agataaaggg gcaccctttg gtcttgtaaa gcctttttta 40680
tcttagaagg gcatgtgggc aactgtctt gacacattga aaccgcctgt atggtggtgg 40740
atgtcttgaa ggttgatttg gacctcattt acttgggcag atcctctata tattctgata 40800
atccagtgat gtggtagaca tatttttct ctgaatgtga attctgtcat agctagaact 40860
ttgggttgat acttgtaatt ccccctttagt taaaggaagg agccacaggg gtgtattagt 40920
ctgttctcaa tttgctataa agaaatacct gagactgggt aatttataag aaaagaggtt 40980
taatcggctc atagttctgc aggctatata ggaagcatag cagcatctgc tgctggggag 41040
gcctcagcaa gcttccaatc atggcggaag gcagagaggg agcaggcagg tcacatggcc 41100
acagcaagag caagagagca aggggaggt gccacacact tttaaactat cagatctcac 41160
aagaactcac tgtctcgagg acagtatcaa cagggagtgg attaaaccat tcatgagaaa 41220
cccacccca tgatccagtc accttccacc aggccccacc tcaaacagtg ggggttacat 41280
ttcagtatga gatttgggca gggatgctaga tccaaactag atcacaggat aagggaagta 41340
gattccattc atagagcaga taatggcaca gatgtccagc aactattttc ttcactttaa 41400
tatgctcagg ctcactactg attttggttt aattcaggcc agtgttaata tgacctggtt 41460
tttccagaat gcatactctg atttggtgaa gggccaggag gtgattcaca gatgttggag 41520
ataggccatc ccagcctggg attacttatt tgtactaata aatctgacca gagttaattg 41580
agggtttaaa gcaaaacagc atatctgtct actttgctca aatattttac aaatacaaca 41640
gattatgaga gtgggtaata atatctggaa taattgtttt tttgttttgt ggttttttt 41700
ttttttttt tgagatggag tctggctgta gcccaggctg gagtgcagtg gtacagtctc 41760
ggctcactgc acctctgcct cttggattca agcgattctc ccgcctcagc ctcccgagta 41820
gctgggatta caggtgccca ccaccacacc tggctaattt tttattttta gtagagacag 41880
cgtttcacca tgttggccag gttggtctgg aactcctgac ctcaggtgat ccgcctgcct 41940
cagcctccca aagtgctggg attacaggca tgagccacca tgcctggcct ggaataattg 42000
ttaataatta ttacattgat ggcattttat tgctgagcaa gaagaatcta acatgatgaa 42060
tgggttatag catcaggttt gctttgtttt tttgtttttt tcctcttttct tgatggtgat 42120
ttctgtgttt gtgtgtatgc gtcggcttca gagccattct ttatcattct tccttttcct 42180
agggcatatg cggccagcaa agaatcacat gccactttgg tgtttcataa tctcctggga 42240
gagattgacc agcagtatag ccgcttcctg caagagtcga atgttctcta tcagcacaat 42300
ctacgaagaa tcaagcagtt tcttcaggta tgatgagaaa ctgaggacaa ggagaaacag 42360
gacccgcaga gtcgggtgtt agtgttcttt cctggaagca tctctttct catttggcta 42420
agtaacgaga atctatcttg tattttcaat cacaggagaa gtaattagcc ctttctcaaa 42480
gctctgtata cttacccgtg agcatcatta cctgagaatc acttctcttg tcacagttga 42540
agtaataaag tgattgttat gttaatcata catgttagca tgttaacgcg gtccactgat 42600
aggaagatga ctctcactgt tacatgttaa atgtttgacc ataatgggat acttcttgac 42660
taagtcagta gcttccctgc aagaccagga tagtatactg tgtaaagact cagacaaggc 42720
caggcatggt ggctcacgcc tgtaatccca acaccttagg aggttgaggt gggaggattg 42780
cttgagcctg ggagttttga gaccagcttg ggcaacataa caagacacca tctctacaga 42840
aatttttttt aaaaactagc tgattgtggt ggcatgcacc tgtagtccca gctactcaga 42900
aggctgaggt gagaaaattg tttgagcctg ggaggtcgaa gctgcaataa gccgtgattg 42960
cgccactgca ctccagcctg gcggacagag tgagagccag tctcaaaaaa aaaaaaaaaa 43020
gactcaggct aatgtgcctt ctgttacaga aatagtaacg acctcccctt cgccccccgc 43080
cgacagagag ccttcaccca ggctctgaag cctttgttcc gttgtttcct agaataaatg 43140
```

Page 39

```
ctttccttga tgaatacatt agttttaagg tgccacagtt cagtccacat ctccatggtc 43200
tgctgctgat ttttattctc tttctctcct acttatagag caggtatctt gagaagccaa 43260
tggagattgc ccggattgtg gcccggtgcc tgtgggaaga atcacgcctt ctacagactg 43320
cagccactgc ggcccaggtg agacctgaga caaaacaaat ccctggtctg ggaggaatgg 43380
aaaatcaaac aactttataa tgagataaat tattagatct actaaaaaag aaggaaaaga 43440
aattaaatag atcaataatc ataaaaatac attgaaaaac tctaaaaaaa aagaaagttc 43500
cacccccaa aatacattga aaaactctaa aaaaaagaaa gttccaccaa aagaatccaa 43560
cagacccaat ggtttaaaag ttttgttttg ttctgacaaa ttttctttgt ttttcttttt 43620
ttttttttct gagacagagt tttgctcttg ttacccaggc tagagtgcaa tggcgcgatc 43680
ttggctcact gcaacctcca cctccagggt tcaagtgatt ctcctgcctc agcctcaaga 43740
gtagctggga ttataggcgt gtgccaccac acccagctaa ttttgtattt ttagtagaga 43800
cggggtttct tcatgttggt caggctggtc tcgaactcct gacctcaggt gatccgcccg 43860
cctcagcctc ccacagtgct gggattacag gcgtgagcca ctgtgcccgg cctgttctga 43920
caaactttca tagtacagat tattccaata tcattcaaac ttttccaaag tataggaaaa 43980
caagggatgt tttcagctta ttttatgagg ctggaaaaat cctcatatca aaacctaaaa 44040
aacagccagg tgtagtagct cacgcctgta atcccagcac tttgggaggc tgagacgggc 44100
agattgcctg agcctcagga gttcgagacc agctggggca atgtagcgag acctcatctc 44160
tctttttttt tttttttgag acagagtctc tctgtcgt ccaggctgga gtgcagtggt 44220
gccatcttag ctcactgcaa cctccgcctc ccaggttcaa gcgattctct tgcctcagcc 44280
tcccgactag ctgggactac aggtgtgtgc caccaagcct ggctaatttt ttgtattttt 44340
tttagtagag atggggtttc accttgttag gcaggatggt cttgatctcc tgacttcatg 44400
atccaccggc cacagcctcc caaagtgctg ggattatagg catgagccac cacgcccagc 44460
cttttttttt tttttgagac agagtcttgc tctgttgcca ggctggagtg cagtggcgtg 44520
atctcagctc actgcaactt ctgcctccca ggttcaagct attccctgc ctcagcctcc 44580
caagtagctg ggactacagg cgcgcgccac cacacccagc taattttttg tgtttttagt 44640
agagatgggg tttcactgtg ttagccagga tggtctcgat ctcttgacct cgtgatccgc 44700
ccgcctcggc ctcccaaagt gctgggatta caggcgtgag caaccgcacc tggcttaatt 44760
aaggatcttt ctaaacacaa gaaagaatat ttatcagaaa ccaaagggag catgatgcac 44820
agtggtgaaa cactattctc agtaaaaaca gcaaaagata aggatgtctt ttaccattga 44880
tactttctg agggatccag cctatgcaaa aagaaaaaga aatgagggta caaatattgg 44940
aaagcaaggg acagaactct tattatttac agatagatag gtcttcctcg aagatccaag 45000
agaaacaaaa ctaacaataa caattggaac tagcaaggtt tagaaaggcc attgtataca 45060
agataaatat ttttagaatc tgcagttccc ctaatcagta gcagcagtaa cctgttagaa 45120
gatgtaatga aagtaaagat ctgggccagg cacgatgtct cacgcctgta atccaagcac 45180
tttgggaggc caaggtgggc agatcatgag gtcaagagat tgagaccatc ctggccaaca 45240
tgatgaaacc ccatctctac taaaaataca aaaattagct gggtgtggtg gtacgcgcct 45300
gtagtcccag ctactcggga ggagaatcgc ttgaacctgg gaggcggagg 45360
ttgtagtgaa ccaagattgc gccactgcac tcctgggcga cagagcgaga ctccgactga 45420
aaaaaaaaaa aaaaaaaaaa gaaagatctg attcatagta gtaaaactaa atgtatgcaa 45480
tttgcatata ctattggtat gtatgggaaa atatctggaa acacatatac taaatcatta 45540
aagtagtcgg tcataggaga cttttttact ttctgtgagg ggtttaccg tctttaatat 45600
cctataatca gggacatttt ttcttttct ccgtgacccc ctgctttta aaaaattgtg 45660
gtgaaataca cataacatta catttcaaat ttacctttgt aacctttgtt tttttttttt 45720
tttttgaga cagtctcact ctgtcaccca ggctggagtg cagtggtgtg atcacagctc 45780
actgcagcct caaccacctg ggcctagcg atcctcctgc ctcagcctta tgagtagctg 45840
ggactacagg cacatgccac catgcccagc taattttttt tttttttttt tttggtagag 45900
atgggctctt gccatgtttc ccaggctggt gttgaactcc tgggctcatc aactgatgag 45960
aaagagctct ccaggcagaa agaagatcat gttcaaagac agaaacagaa atgtgtattc 46020
ttgggagaag tgtagaaagt tcagcatctg attgggtcgg ggaagacaag ctagtcaagg 46080
ccacatgatg ttttaattag tcatgcctaa cagtggggcc ctggaagagc agtttaccac 46140
aaggggccaa ctgcttcggt ttgaacccgc agccctgcca cttgctctgt aaccttaagt 46200
aaacaatttt tactctctct gttcctccaa tgggagtgat aacaatacct tcttcataga 46260
attaattcat acatgtaaaa tgcttagaac agtatctgac acataaatgc aaaataattt 46320
aactgctttc tgctgctgct gacatcacta tcatcaccct caccattact gtaggaaatg 46380
gggacccagt gaagaatttt tttttttct tttgagacag agtctcactc tgtcacccag 46440
gccggagtgc agtgacgcga tttcggccca ctgcaacctc tgcctctcag gttcaagcga 46500
ttctcatgtc tcagcttccc aagtagctgg gattacaggc atgagccacc acactgggct 46560
aatttttgt attttagtg agatagggtt tcaccatatt ggccaggctg gtctcaaact 46620
cctgacctca ggtgatccat ccacctcggc ctcccaaagt gctgggatta caggcataag 46680
ccactgtgtc cggccctagt gaggaatttt aagcagaaaa ctgatatgct caggtgtgag 46740
cgaggtggta ggtaacactt actgtgcagt gccctgtagc ccaagaggtt agcacacagg 46800
catttgctca ggcagcacta ggattttctg ctgtggaaaa cctttgtatt ttatcctgct 46860
ccacaagata aaaataagtg gtttaagtca atttggatag aggctccaac ttaccatggg 46920
aggtaggaaa gccaaagtta tcccaaggat gttttcaatc gtacggatta ggggtctgca 46980
aactgtgagc gtggcccaaa tccagcctgc tgcttgtttt tgtaaatgag gttttttcgg 47040
aacccagcca cactcattta tttatgcatt atctgtggct gctttggtgc tgcagtggca 47100
gggctatttg tggcagggac tgtatgaccc aggaaaccaa aaatatttac cctctgtccc 47160
ttagagaaaa agtttgcaac ccctgatata aagctataag ttggttattt gtggcctcaa 47220
```

```
cccaggcctc actgctattt tttctgttta caatacctgg catgctctta agtgtctaga 47280
attggttaaa gatagaagag tggatgtaat ccctgctacc aagggctgtc aggctagttg 47340
ggattataag tacacaaaca ctcaaagtga gaaaaacaca gaaaaggatg tgtgtcattt 47400
tgtctaagga agttgaataa gatttctcag gaaaagaaac atttgaactg aatttgaagg 47460
tgagtgagtt caggtgtgtt tgggctgaag cccaggccat gctgagtgga tagcgggtgg 47520
gaagagagtg tggaaacaca ctgcatgcag ggaagagttg ggagtctggg gtgaccaagg 47580
cacagggagg gaaagttgaa gttatcaatt gtgtgaaaca gctttctgtg ttggcctgag 47640
atgtttatag ctggaagcag tggggagcca atacagtttt ttacgaaggt attagaggtg 47700
ggtttctgtg ggtgatcgtt aatcatgttt tctcccttta agtgtagtcc tgcttgagaa 47760
atagacatga gaaaggaatg aaggttaaaa catcagctgt attgttggta aaactagaat 47820
ggaaagtgtg gcttgagctg gtaaccatag gggctttcca atgcctgtgc cctgagttag 47880
atcttggggt agagagactg gatgtgcaga gcagcacccc caccccaccc cagccatcca 47940
tatggagctt cagctgccat agaccaacaa ggcagaggga taggcctcta gacctgcttc 48000
tagaaaccag gctgctgctc ttgcttatgg tgggccctag gaaggcaaga gtgagaggag 48060
ggaggcacca gcttaggtgc tgggttcttt gaagatctgt gtgtacacag agtctttctc 48120
tccatcttac caatcagatg agtcactgtc actgtgggaa gaagtagggg catgggtcac 48180
cttcccaaaa cttctaagaa gtttgtattc tgtgggcttg datagggacc atgggaaagg 48240
aagagaatgg ttgcccataa aactggctgt agtgtgacct caaacttctg gacttaaatg 48300
atcctcccac ctcagcctcc caagtagcta gaactacagg tatatgccac catgcccagc 48360
tagttaaaaa aaaattttt ttttttttg gttgagatga ggtctctttc tatgttccct 48420
gggccggtct caaactccca gcctcaagtg atcctcctgc cttggtttcc caaagtgcta 48480
ggattatagg tgggagctac catgcctagc ccaagcctgt aatttttttt tttttttttt 48540
gagatggagt ttcactttg ttgctcaggc tggagtgcat ggcgcagtct tggctcacca 48600
caacctccac ctcccgggtt caggcgattc tccttcctca gcctcccgag tagctgggat 48660
tacaggcatg caccaccaag ctcagctaac tttgtatttt tagtagagat gggtttctcc 48720
gtgtcggtca ggctggtctc aaactcctga cctcaggtaa tctgcccacc ttggcctccc 48780
aaagtgctgg gattacaggc atcagccacc gcacctggca cgaacctgta attttttaagt 48840
ttcatatgct atttatttt tgttatttct ttaattcatt cattcattta ttcattcgag 48900
atggggcctc actatgttga ctaggctagt tttgaactcc tggcctcaag cagtcctccc 48960
acttcagcct tcccaagtgc tgatattata ggtgtgagct gctacatcca gccttctttc 49020
ttctttttct ttttccatgt gctatttgac attttccaag gtaccagcct ccccttctcc 49080
ccaagataat atcttttaat atggaatttc atccctaggg caggactttt tttttattat 49140
ccctcagaaa tatactggac accacgttta agtagacatc caacatctgc tgtcataaat 49200
tgttttgaat tttttgacat acttgcccat gaggtttttg aaggcataga ccatgtctta 49260
gctgaacatg tggtctctta gtgccataaa ggggggtttat ggtatgacct gtgtagtgtc 49320
acctgtgtag tgacagcacc actgcctctg tttcccttcc tcttgtgatg gcagcagcgt 49380
ctcaagccaa acaagaaggg tagttagggt gggatggaag ctgggtagag gtattcctct 49440
ccccatagtt ctgtgttcac atgtgcattg acctcctttt tggcagcaag ggggccaggc 49500
caaccacccc acagcagccg tggtgacgga gaagcagcag atgctggagc agcaccttca 49560
ggatgtccgg aagagagtgc aggtgatgca agttacaagc ctcgggcagg gagctttcat 49620
taatttttt ttttttttt gagacagggt cttgctctgc cactcaggct gggctgcagt 49680
ggcatgatca cagctcactg cagcctcgac ctctcaggcc caagcgatcc tcctacctca 49740
tcctcccaag tagccgggac cacaggcatg caccaccacg cccagctaat taaaaaaaaa 49800
aaatttgtag agatggggggt ctccctgtgt tgtccaggct gatcatgaac tcctgggctc 49860
aagtgatcct cccaactcag cctctcaaag tgctggcatt acaggcgtga gccactgcac 49920
ctggccaaca gggagcccttc tcttgggcat actgcctgca ggtcctgcat gtatcttttt 49980
tgaggttttg gcttcatttg aattctcctc agaaacttta tattttctgt tcccaaggaa 50040
atctttcttt acttctgttt ttttgtttgc ttattttaaa caggatctag aacagaaaat 50100
gaaagtggta gagaatctcc aggatgactt tgatttcaac tataaaaccc tcaagagtca 50160
aggaggcaag tgaatattag agatgttaaa atctctagaa agtgagtttg tgttgttgag 50220
ttgaaagact catttgtctt aactctgttt agatcttaag gcgggcgggg cgcaagggag 50280
gtacgggtcc tcaaaggagc ctggtcatta aggacaggag tattccctca ggtccaggag 50340
tattccctca ggtccaggag tattccctca ggtcaaggag tattccctca ggtcaaggag 50400
tattccctca ggtccaggag tattccctca ggtccaggag tattccctca ggtccaggag 50460
tattccctca ggtccaggag tattccctca ggtccaggag tattccctca ggtcaaggag 50520
tattccctca ggtccaggag tattccctca ggtccaggag tattccctca ggtccaggag 50580
tattccctca ggtccaggag tattccctca ggtccaggag tattccctca ggtcaaggag 50640
tattccctca ggtccaggag tattccctca ggtccaggag tattccctca ggtccaggag 50700
tattccctca ggtcaaggag tattccctca ggtccaggag tattccctca ggtccaggag 50760
tattccctca ggtccaggag tattccctca ggtccaggag tattccctca ggtccaggag 50820
tattccctca ggtccaggag tattccctca ggtccaggag tattccctca ggtccaggag 50880
tattccctca ggtcaaggag tattccctca ggtccaggag tattccctca ggtcaaggag 50940
tattccctca ggtccaggag tattccctca ggtcaaggag tattccctca ggtcaaggag 51000
tattccctca ggtcaaggag tttttcttc cttcgcagac atgcaagatc tgaatggaaa 51060
caaccagtca gtgaccaggc agaagatgca gcagctggaa cagatgctca ctgcgctgga 51120
ccagatgcgg agagtaaggg cataggtcgg accacttccc ccatgtgtct cgctcacttg 51180
cgggatttca gcgtcttgtg gcagaacttg cttggtttct aagaagttcc tgctctggag 51240
ttgactaaag aatgtggtta gagacagtct gaggaaatgt tttctgactt tgttttggtt 51300
```

```
tccaaccaga gcatcgtgag tgagctggcg gggcttttgt cagcgatgga gtacgtgcag 51360
aaaactctca cggacgagga gctggctgac tggaagaggc ggcaacagat tgcctgcatt 51420
ggaggcccgc ccaacatctg cctagatcgg ctagaaaact ggtaaaggat gaaagaagct 51480
tttcctttct ttctcgaaag ctagattgaa ttctgatctt aactgcaggc ccacagaatt 51540
ggtactatat ctccaacgtg gggacttttc catattcaaa tttagcccaa gaattaaagt 51600
ttttacttta tttcggccag gcgctgtggc tcacacctgt aatcccagca ctttgggaga 51660
ccaagatggg cggatcactt gaggtcagga gtttgagacc agcctggcca acatggtgaa 51720
aacacatctc tactaaaaac ataaaaaaat tagccgggcg tggtggtgcg cacctgtagt 51780
cccagctact ctgggcggct gaggcaggag aatcacttga acctgggata tggaagttgc 51840
agtgagcgga gatcttacta ccgcacacca accagcctgg gagacagagt gagactccat 51900
ctcaaaaaaa taaaaataaa ataaagtttt tactttattt ggagaaactt tgttttaaaa 51960
aatgtattta tattattata ttttaagtat attttactta ataattcaat taaggctttt 52020
ggtttaactg tatttaacag atagacaaac cttttaattt tagttatttt agtaatctaa 52080
aatgacacat gcccttttta agggaaaaaa ttcaaataca gaaaattaat caagagaaga 52140
aaaaattttt aaatgaaatc atcagcagta ctagtagtta aaatttagtt gatgctcaat 52200
ctagacatct gtcattatgt atatacacat tatgtatata cacataaaga tagaaattta 52260
tacagtttat attaggatca ttttttttttc tttttttgga gtcagggtct cactgtgtta 52320
cccagtctag agtacagtta tgcagtcatg gctcactgca gccttgacct cctgggctca 52380
ggcagtcttc ccaccttagc cttctcagta gctgggacta caggcatgca ccaccacacc 52440
tggctaattt ttaaattttt tatagagaca gggtcttact ttgttgcctg ggctggtctc 52500
aaattcctgg gctcaaggga tcatcccact tcggcctctc aaaagctctg gaattataga 52560
tgtgagctgc cgtgcccagc ccaggatctt cctttatatg cttttctgta atttgcactt 52620
ttaccttcat ccagcatatc ttactgcaac ccttcctgtg caaggcccta tagtgagcat 52680
gttgcaccag cttgccttag gagaaacttg agatacagag cctgcactgg aaatttagcg 52740
caactctaca tgagaatgcc tgtctattca tatcctcact aaccctgagt gttgttaatt 52800
tactgaaagc agtttttaaat gcttcctgac cagggaacga agaagcttaa gttctgggaa 52860
tgggaggata gaagtgccaa aaaagagctc aggagttcga aaatccctgc agcggtcccc 52920
ctccctctcc tttcactttc tgtctttctg gtctttttggt ctttgttaca ctagtgataa 52980
accatcaaag aatgatggaa tgatgctaac ttctctctctt ttttaatttt tttgagacag 53040
agtctcactc tgtcacccag gttagagtgc agtggcatga tcttggctta ctgcaacctc 53100
ctcctcccag gttcaagcga ttcttagtca caaccttcca agtagctggg attacaggcc 53160
catgccacca tgcctggcta ttttttttgta ttttagtaga tcgacctgcc tcggcctctc 53220
aaattttttgg gattacaggt gtcagccact gcacctggcc taatatctct attcttggag 53280
atagatttaa tgagctttttt ctccctctct attcacttat tccttgtgca tgttatcaat 53340
attttgaaac ataatgtcat gtcctttgat cagttgaagg ctgacattga aaaggcttat 53400
ggggattggg tgttgtggct cacgcctgta aatcccaatg ctttgggagg cagatgcggg 53460
aggatcactt gaacccagga gtttgagacc agcctggcca acaaagtgag atcccatccc 53520
tacaaaaatt taaaaaacta gacatgtgcc attacacttc agcctgggtg acagagtgag 53580
actccatctc aaaaaactaa actaaactaa acaggcatgg tggcacacac ctatagttct 53640
agctactcag gaagctgagg taggaggatc actcatgtcc aggagttgga ggaggcagtg 53700
agctatgatc atgccattgc actgcactag gccacagagt gggaccctgt ctcaaaaaaa 53760
aaaaaagaaa gaaagaaaag aaagggctca tgtagttcaa gcccttctct tcatgcaagg 53820
ggatgctaag gcccatgatg gtgaagggcc tggcaaagct tgcacagata gtgtgtgaca 53880
gagctggctc aaacccatct ttgggagctg tctaatctct ttttctgagt ctttatgttc 53940
atagacaagt taggatgagt aaagtaagtg ctaaattcca tatttcgtgt tctgcatatc 54000
tgggctcaga tgcttgtcat tttccagtga taactccatc aatgcctcct agtggtataa 54060
attttaatac ttcttgtgtg cccagccccc tcttagaaat ttgagatttt aggaagggac 54120
tagtaataaa aggtaaaata aattattttc tggccaggca tggtggctca cacctgtaat 54180
gccagtactt cgggaggtcg aggcagatgg atcacctgag gtcaggagtt caagaccagc 54240
ctggccaaca aggcaaaatc ccatctctac taaaaatgca aaaattatcc gggagtggtg 54300
gtgggtgcct gtaatcccag ctacttggga ggctgaggca ggagaatcac ttgaacttgg 54360
gaggcggagg ttgcagtgag ctgagactgt gccactgcac tccagcctgg gcaacagagt 54420
aagactctat ctcaaaaaaa aaaaaaaaa aaaaaaggcc aggcgcagtg gcttacacct 54480
gtaatctctc aggaggctca ggcaggagaa tcacttgaac ccgggaaatg gaggttgcag 54540
tgagccgaga ttgcaccact gcactccagc tcaaaaaata aataaataaa taaattattt 54600
tcttttttta tttattttt cagcatccac ccaacatggt gaaaaattcc tcttttctta 54660
atgtcactga actgtaaact taagatgaaa aattgtaaat ttcatgctat atatatttca 54720
ccacaataaa aaaattcctt gttcttattg tagtggtctc catgtcttca gtatttcctt 54780
cccccttctcc atctcacctg tatacattca ctttggtaat tagcatcttt cttaatttat 54840
tggcaggata acgtcattag cagaatctca acttcagacc cgtcaacaaa ttaagaaact 54900
ggaggagttg cagcaaaaag tttcctacaa aggggacccc attgtacagc accggccgat 54960
gctggaggag agaatcgtgg agctgtttag aaacttaatg aaaaggtaat ttagcatcct 55020
tgtccctttc cctcatctaa aaaataccta aagactcacg tggtagagtg agaggcgggc 55080
tgacttctgg tcatggccgt ggcgcgtgag cccatcttct ctttcctcag tgcctttgtg 55140
gtggagcggc agccctgcat gcccatgcat cctgaccggc ccctcgtcat caagaccggc 55200
gtccagttca ctactaaagt caggtaggcc atgccacttc catttccagt agagattta 55260
ctgagggaca ctgttagggt gagggtagag ttggtggcca gggtcattct ttccaggtgt 55320
ggtgtcacag gcagtacact gttgcggggt tgaaatttgt tgccatacta tctgcttgct 55380
```

```
ctctgattct gatgtcaaaa gcaaaagagc agtcatcttt ttgaaggtac ctgggcatat 55440
tcctatgatt gtagacctgg agtctcaggc cacagcttct ccttctgccc aagggacaaa 55500
ataatgtcat ctattttctg ttctttgagg ctactcttcc ctgtggattt taagggaaag 55560
agtaaggctt agtgatgggg aagctgagag gccccagggc aggtgggtgg tgggcctgta 55620
gggtgaggtg ttactttcac actcaagtca gaacaggtgt gctggggttt tgaccttctg 55680
cagcaaaatt tccctcctca gaaacttagt atggtgttcg gtttcaggat taatagaaca 55740
aaatgccagc tgcacagcat gtgttcctgt aatattttc attatatggc tttgattatc 55800
cttttgtgaa tctctcacaa ctttaagttg ttagttctta gatgttttct cagtaccttt 55860
ggcttgaagg agtgatactc atcttttgtt tttgtttgag acagggtctc actctcaccc 55920
aggctggtgt gcagtggcat gatctcagct cactgcaacc tccatctccc aggttcaagt 55980
gattcttgtg cctcagcctc ctgagtaact gggaatagag gtgcgtgcca ccacacccgg 56040
ctaatttttt ttttttgag acagagtctc gctctttcgg ccaggccaga gtgcgtgttg 56100
caatctcaac tcactgcaac ctccacctcc caggttcaag cgattctcct gccttagcct 56160
ccctgagtag ctggaccggc acactccacc atgcccggct aattttgta ttttagtag 56220
agacagggtt tctccatgtt ggccaggctg gtctcaaaac tcctgacctc agtaatccac 56280
ccaccccggc ctccaaaagt gctgggatta cagatgtgag ccaccacgct cggccttttt 56340
tttttttttt tttttttga gatggagtct ttctctatca cccaggctag agtgctgagg 56400
tgtgatctcg gatcactgca gcctctgcct cctgggttca agtgattctc ctgcctcagc 56460
ctcccaagta gctgggatta caggtacctg ccaccatgcc cggctgattt ttgtattttt 56520
agtagagacg gggtttcacc atcttggcca ggctggtctc gaactcctga ccttgtgatc 56580
cacctgcctt ggcctcccaa agtgctggga ttacaggtgt gagtcaccgc acccagccct 56640
attttaattt ttttaaagag agagataggg gccaggcacg gtggctctcg cctgtaatcc 56700
cagcactttg ggaggccaag gtgggtggat cacctgaggt cgggagttcg agaccatcct 56760
gaccaacatg gagaaactct gtctctacta aaaatacaaa attagctgag cgtggtggcg 56820
cgcgcctgta atcccagcta cttgagaggc tgaggcagga gaatcacttg aacccaggag 56880
gcggaggttg cggtgaacgg agattgcgcc attgcactcc agcctgggta acgagagaaa 56940
ctgtctcaaa aaaaaaaaaa gagaaagaga gataggatct cgctctgtca tctaggctag 57000
agtgcagtgg catgatcata gatcactgta gccttgaact cctgggcaca agtgatcctc 57060
ttgcctcagc ctcccgagta actgcgacta caggtacatg ctaccacacc ccgctaattt 57120
ttaaattttt tatagatgtg ggctctcact ttgttgccca gactgttatg gaactcctgg 57180
gctcaaggga tcctcccagc ttggcctccc acagtgctga gattatagat gtgagcctgt 57240
aattatagac agcttggcct atttacctgt tggaaatgaa gaattatgaa ttttacattt 57300
cttcaagaaa aggttatggg agagttactg acttttttc cttggatttt ttctttttaa 57360
ataggttgct ggtcaaattc cctgagttga attatcagct taaaattaaa gtgtgcattg 57420
acaagtaagt actcctatct tagctctgtt tttcaaatga ggaatagaaa aatgagaact 57480
ttgacagaca tcatttgaac tagagactct gtctttattc agagatcttc attttgtgga 57540
caaaagtttt caaaagcctt ggggtgcatt gtcatttacg tgtctgaaca aagccacaaa 57600
gctggggta cagatttgat ttgtggttgc tattgtgaca accagtccct cttttccttg 57660
tttagttttt tacttgtaca tgtcattcat gcatattata tataagactg agatcatgtg 57720
ttaattaacg actgggatac gttctgcaaa atgtatcatt aggcaatttt gttgtgcaaa 57780
tgttgtagag tatatagtcc ttacacaaac ctgggtggca gaacctactg cacacctacg 57840
ctatgtggca gagcctactg gtcgtaggct gtaaacctgt acagtatgtt actgtgctga 57900
ataccgtagg caattgtaac acatctcaat gaagtaggaa ttttttcagct ccatgataat 57960
cttatgggac caccatcata tatgcatttt gttgttgacc gaaacgtcgt tatatattct 58020
ttccatacat agcatgtgga aagaatagat ctctttttt taattgttcc acactttacc 58080
atataatgga atacgcaaaa tttcacaata cctttcagga tgtaaaatac atatacccttt 58140
tgacgacatt agaaaagaga aaatgtgggc cgggcgcggt ggctcatgcc tgtaatccca 58200
gcactttggg aggccgaggc gggcggatca cgaggtcagg agatcgagac catcctgggt 58260
aacacggtga aaccccgtct ctactaaaaa tacaaaaaaa ctagctgggc gtggtggcgg 58320
gcacctgtag tcccagctac tcaggaggct gaggcaggag aatggcatga acctgggagg 58380
tggagtttgc agtgagccaa gatcacacca ctgcactcca gcctgggcga cagagactcc 58440
atctcaaaaa aaaaaaaaa gaaagaaaa gagaaatgt ggctgggcgc ggtggctcac 58500
gcctgtaatc tcagcacttt gggaggctga ggtgggcaga tcacctgagg tcgagagttc 58560
gaaaccagcc cgaccaacat ggagaaacct tgtctctact aaaaatacaa aattagccag 58620
gtgtgttggc gcatgcccgt aatcccagct acacgggagg ctgaggcagg agaatcactt 58680
gaactcagga ggtggaggtt gtggtgagcc gagatcacac cattgcactc cagcctgggc 58740
aacaagagcg aaactatctc aaaaaaaaaa aaagaaaaa gaaagataa aatgcattct 58800
tattttagt tgatgtaatt atgtggaaat ttcatgagga tgcactggaa aataatgaaa 58860
taagggagtt gacgaaggtg gtaggtttaa taagtacata tgcaatatga aacataggtt 58920
cccttccta tggggaggca accaactgtg cctgctacgc agaggtgtta tgttgcgctg 58980
atcaactgta actgaatagt ttaaagaaat gcccaggagc acagaggttt tttcatgaca 59040
gtaaataaca ggtggtcaaa gtaggctttt tgaagaaaca cagagcctat tttattaaca 59100
acagtctgtg ttcttacaga gactctgggg acgttgcagc tctcagaggg taagttcagc 59160
ctagaggctt ccttttgttc cgtttaacct aacttcatcc tccggctact tggtcaccta 59220
catagttgat tgttcccctg tgattcagat cccggaaatt taacattctg ggcacaaaca 59280
caaaagtgat gaacatggaa gaatccaaca acggcagcct ctctgcagaa ttcaaacact 59340
tggtatgtgg gaggagctcc ccttcacaaa gggcctctgg ctgccggaga gggctaggga 59400
gagcctcaca ggacacctgc ctttttcttt tcttacagac cctgagggag cagagatgtg 59460
```

Page 43

```
ggaatggggg ccgagccaat tgtgatgtaa gttttgttgg ggatgaaaga caactggggt 59520
gttttccttg agggagagag gggtaaagat ccttcttaat ccccagaatt agaaacatca 59580
acctgttctt tcagctgtag ttattccaaa aagtcacttc aggccaaagt gacatgaaca 59640
gaagttccat gtgccatgga gctctctggc ttggaacatt tccgtgaata tctgggagtt 59700
ggctcctcct taaggagaag tggaaagtcc cttgctgagt tgttctccac acccatgtgg 59760
tataaagcag ctttccacct tgcctggggc tttccaaatt ccccatccag ctcctgcggc 59820
tgaccctgct tggctccatt tttagtgccc tgtttttctc tcccactgag gtgggataga 59880
gggtgtaaaa gcaacagatt tgagttaaac tttaaaataa atgaccacct tgcattagct 59940
tgcttaggaa aagagtacat aaaataaaat gaacaaacaa aaacccatct tgttctttat 60000
ccccttatt ttctgctttt cattgattca gattattgga ttcttattgt caagaataaa 60060
ctttaaacaa acaaacaaaa aaaggtaaat gtgacggaag gctagttttc agtcattttt 60120
aaaaattgtg atgccccgtt cttttttctta catttgtccc ctgaacaatt cttcctcttt 60180
aaaatgtagc agtcctagct gggcgtgctg gctcacaccc cgtactttgg gatgccaagg 60240
caggctggtc acttgaggtc aggagttcaa gaccagcctg gccaacatgg tgaaagcccg 60300
tctctactaa agatacaaaa attagctggg tgtggtggtg cacgcctgta gtcccagtta 60360
ctggggaggc tgaggcatga gaatcgcttg aacctgagag gtggagcttg cagtgagcca 60420
agattttgcc actgcactct agcctgggca acagagtgaa actctgtctc aaaaaaataa 60480
ataaaataaa atgtagcagt cctttttaaa aatgtggaat tttacttgac agtagagtga 60540
agtagcctgt atgcaatgat atgggaaaat gtacatgaca tattaagaaa aagcaaaatg 60600
taaaataatt tgaatagtat tattagtata tgtgtttttaa aaatacacta tactcttatg 60660
tgtattcata tgtatattaa gaaattctgg aggaatatac cagcagtgct atgtgtatta 60720
gtgctgctgt tggtatccat ggctattcta gactgtctct gtgatatttg cattttaaac 60780
tgaatatatt acttttataa tcagaaaaat agtattaaaa atgaattata atttaatttc 60840
ttttttcttt tttttttttg agtcggagtc tcgttctatc ggattgcagt ggtgcgatct 60900
cagctcactg caacctctgc ctcctaggtt caagcgattc tcctgtctca gcctcccaag 60960
tagctgggac gataggtgca tgccaccacg cctggctaat ttttgcattt ttagtagaga 61020
cagggtttca ccatattggt caggctggtc ttgaactcct gacctcgtga tccacccatc 61080
tcggcctccg aaagtgctgg gattacaggc atgagccgtg ccgccagac tagaattcaa 61140
tttttgagaa ttcattgaca actcttactt aaaataaggt tgctgtactg atgtgagaca 61200
ttgttgtagt cagtttggaa aacaatttgg cagtataaaa atgaacatac ctgtaaacca 61260
acggtgccat tcccaggatt taatagcaga gaaatctttg catatatgtc ccaggagaca 61320
tatataaagt ggacatcagc ctgattataa gctctaaatg caacccaaat aaatacccat 61380
caacattaga atgaatacat tatttgtggt atagacacaa tggaatactc cgcagctgtg 61440
aaaaggaata cactgcagat acacataacc atgtggattc atttcacatc aagtgaaaag 61500
tgaatcccaa aagaattcat tggagtccat aagtgtaagg ttcacaaatg tcccaaacta 61560
aacaatacct gcattgctta gataaacaaa tatggtaaaa ctgtaaaaaa acaaaacaaa 61620
acaagacaaa aagggctagg aaatgataaa cccaaaagac aaaatagcag ttatttctga 61680
gggaggaggg aaggggatgg ggttggggaa gggcacccag agaatttttag gagtgatgga 61740
ctttttcctta aattgaatgg tgggttcata ttgttttgtt attctttgtg ccttacgtat 61800
tttacaaata accaattgga tctatgtaat attataatac aaactgagta aaggattagg 61860
ttgaggatca cagcattgga agttcttggt gttgaagaga gtaagtgccg agcaagttgt 61920
gtccctggca gtttgtttgt gaccacctgg tggcttaccc ttcttggtgt ggtgaggctt 61980
ggcatgtcac tttccttggc tgtggctgtt agtactgaat gccattctct ctgaggaaaa 62040
gtgtccttct cttttttatt gattgactga ttgattgaga cagagtctca ctctgtcacc 62100
caggctggag tgcagtggcg tgatctcggc tcactgcatc ctctgcctact tgggttcaag 62160
cgattctcct gcctcagcct cctgagtagc tgggactaca ggcgcccact accacaccca 62220
gctaattttt gtattcttag tagaaacggg gtttcaccaa attattggcc aggctggtct 62280
cgaactcctg accatgtgat ccacctgcct cggcctccca aaatgctggg attgtaggtg 62340
tgagccatca cgctcagcct tttttttttat ttaatttaat ttttttttaa gacagggtct 62400
cactctgtca ccccagctag agtgcagtgg cacaatcata gctcgctgca gcctccatct 62460
cctaggctca agccatcctc ccacctcagc ctctcgagta gctggggcta taggtgtgca 62520
ccaccacacc cagctaattt ttgtattttt tgcagagatg gagtttttgct gtgctgctta 62580
gactggtctc gaactcctgg gctcaggcaa tcctcctgcc ttggcctccc aaagtgctgg 62640
gattacaggc atgagccacc acacctggcc taagagtgtc cttctcgtta ctgtaggctt 62700
ccctgattgt gactgaggag ctgcacctga tcacctttga gaccaaggtg tatcaccaag 62760
gcctcaagat tgacctagag gtaagttctg cagcagaatc ggtgagaggc tacgtacagg 62820
ggtgactcag gacaaaaact tccactggga tttttacaag agaaggtgga atgattactg 62880
tttgcttaac actgtgttta tttttgctta cttttctcca aaaaaatcct tggcatccca 62940
tctggcaata aagtcttgct tgaatgctta gaagatgtgt gtatattcag ctttcagcaa 63000
acttgatatg aaaatctcta tttagaaatt gattggccgg gcgcggtggc tcacgcctgt 63060
aatcccagca ctttgggagg ctgaggcggg tggatcacga ggtcaggagt tcgagaccag 63120
cctggccaac atgacgaaac cccgtctcta ctaaaataca aaaattagct gggtatggtg 63180
gcggacgcct ataatcccag ctactcggga ggctgaggca ggagaatcac ttgaacctgg 63240
gaggcagagg ttgcagtgag ctgagattgt gccattgcac tccagcctgg gtgacagagt 63300
gagactccgt ctcaaaaaaa aaaaaaagaa attagaactg actttataaa gtttgggcat 63360
aagagtctta gcagccagtg tgtttagtat acagaaaatt gtggcaatga cattctcctt 63420
tcccaacttt cttgattttt aaattaagat atacctagaa aagcaggaat cctggtcttt 63480
gattcctgag acctccctgt ttcatgtgaa gatacagctt caagtcttgg agaatgcctc 63540
```

```
caaggtctta aaaatgggga atctgtggat tgtgagtcaa gctttgagca agtcaggttt 63600
tacaagggac cggtatattc cgactgcagc ctgagttgtg tggccacgct gggcattctt 63660
tccactatga gtgctcactg agctgactca ctcacactcc tcgcctagag ttggcagcag 63720
gtgtggttta tggcatgtcc tttcattctg agccccgtga gatgcgggtg aagagatttc 63780
caaggctgtg agagcccctc tgcctcccca gctcagtccc cactccctcc gcagacccac 63840
tccttgccag ttgtggtgat ctccaacatc tgtcagatgc caaatgcctg ggcgtccatc 63900
ctgtggtaca acatgctgac caacaatccc aaggttagtg ccccctcctt ttagttggtg 63960
ccccgggatc tcttgcgact taggggtacc tagtatagac aatgagcacc atccctcatc 64020
taaacaagca aatgtgttct ttccaataga atgtaaactt ttttaccaag cccccaattg 64080
gaacctggga tcaagtgacc gaggtcctga gctggcagtt ctcctccacc accaagcgag 64140
gactgagcat cgagcagctg actacactgg cagagaaact cttgggtccg catttcaccc 64200
cttctccctc ccgcccaccc gcccagaaaa gggatccggc ccatagggct gttcatttgg 64260
gccatgtcta ctgagcatta ggccatgttt ctttcctgag caaggcgctg tgctggtgcc 64320
aggaaacagg ggagttgggg agttgggtg cagagacagt ttgcagtttt cagtcgaggt 64380
gatcattttt gaggtgggag gtagatttct tttctcctgg ttgctgtctc attcacccac 64440
tctatctaac tttagaagat ctttttaagtg tgtgttggaa ggtggcacta aaggcttgac 64500
attccctgtc catttttta ataaactata ggctagttgg tttttttgt cttattttat 64560
ttatttattt atttttttga gacgagtctt gctctgttgc ccaggctgga gtgcagtagt 64620
gtgatctcgg ctcactgcaa cctccgcctt ctgggttcaa gcgattcttc tgcctcggcc 64680
tcccgagtag ctgagactac aggtgctcac caccacgccc agctaatttt tgtatttta 64740
gtagagacgg ggtttacca tgttggccag gatagtctcc gtctcttcac ctcgtgatcc 64800
gcccacctcg gcctcctaaa gtgctgggat tacaggcttg agccactgtg cccagcgtag 64860
gctagttttt aaaaaagaat tagtggaata ttttatgtgc cacctgggct agaagtagct 64920
ttgttctaat aaagctgttg ccaccaaata cacctgtctg acacccgatg tcagcttgtt 64980
agtgagtgct gctgttggtt cccagcctac cacccgaggt tgggaagagc aggggggactt 65040
gttatatcac cctccatccc tgctgggcta cccagcaaca caagtgagtc aaatgatggg 65100
atagtgtttg tcctcatgtg cacacacaca acagtgccta ccttcaaaga tgtgaaagct 65160
gattattttg tggcccattg tgggatgaat gtgtgtgtgt tctgtttaa gaaataacct 65220
cttgacccca agctgaaaat gtactacttg actctttttc tttccttcag gacctggtgt 65280
gaattattca gggtgtcaga tcacatgggc taaattttgc aaagtaagca atcttgttaa 65340
attctcgtgg gaatgggaat gctcacctgc acggctgtcg ttgagggctc tggcttgaag 65400
gccctgaact cttggtccag cggccagtag gacctgcctg aaggtagacg ggcctgagga 65460
tttgggtgat gcactgcacc cctaggaagg gaagggctgg gatggcagta gacttggctt 65520
tcccattact ctttttctcca ggaaaacatg gctggcaagg gcttctcctt ctgggtctgg 65580
ctggacaata tcattgacct tgtgaaaaag tacatcctgg cccttTggaa cgaagggtag 65640
gttggacaga gtgtgcacga atgtaaccaa gtcccctgct ctcagcaagc cagtggcagg 65700
ggatggatgc cctgttagca ataacaacat tgttcctcct ccttggctcc aggtacatca 65760
tgggctttat cagtaaggag cgggagcggg ccatcttgag cactaagcct ccaggcacct 65820
tcctgctaag attcagtgaa agcagcaaag aaggaggcgt cactttcact tgggtggaga 65880
aggacatcag cggtaaggga ggctcccacc cacccacct gctggtggct gctgaggcct 65940
catcactgct tctagttgca agcacctact gcccctggt gggtggagat ggccttgact 66000
ccctgtttca ctcagactcg caaaacacat ttgcgtgact tctaaatcct tccagctgaa 66060
ggattggttt gctttgtttt gcttgctcca gtgactattt gttgagaatt ttgcaattta 66120
aattgtattc ttcatctctt tttctactta accctgttaa tatatcttac gcaagtagtt 66180
atattcaagt ttattttcta tgacccaact agtagcctct tcttaattag aagccagcct 66240
gaatatttcc acagtgccag gccactgaac agggtgttca gggtctcaac actagggtgg 66300
cttaagtctt ttccccttcg aggaaagaaa aaatgggcag ttttctctga gatgacctag 66360
ctgtaggttc catgatcttt ccttcccatg tcctgtgaca ggtaagaccc agatccagtc 66420
cgtggaacca tacacaaagc agcagctgaa caacatgtca tttgctgaaa tcatcatggg 66480
ctataagatc atggatgcta ccaatatcct ggtgtctcca ctggtctatc tctatcctga 66540
cattcccaag gaggaggcat tcggaaagta ttgtcggcca gagagccagg agcatcctga 66600
agctgaccca ggtagttgtt gattttccat gttcctggca tttaattttt gggaaaagtt 66660
ggaaattttg ggatccttgg aggatagata ggcaaatgcc tgaataacct gggggataat 66720
tatttctcct tatgggaaag aattgtagtg agtgcttttg ttggggtgac cgatgggatt 66780
tgagaggaga atcagaatca cttagagtag tgtagttcct gctccacaga gagtgcatga 66840
gtctaaagag gggatacagc ctgggcaata tggtgaaacc tcgtctctac aaaaaatcca 66900
aaaaaattac ccggtgtggt ggcacgcatt tgtagtcgta gctacttggg aggctgaggt 66960
gggaggatca cctgagccaa ggagttcaag gctgtagtga gcggtgatca tgccaccgca 67020
ctccagcctg gctgatagag tgagatactg tgtcaaaaaa taaaataaa gaggggatca 67080
atacacatac gtcccccaaa acatgcctga aacacgagaa gggaaagtga gggcagttaa 67140
caggatgccc tgctggcaca gtgcttctta gtagatgcta gaaggtttga ggcccagatt 67200
tcagcccagc atatggcttt ttgcctgtaa ctgaaccatg tcagtgtgcc agatggtctg 67260
aagaaagggt ttctggagga aattattatt agctgcatgg gagtatggtt tacactagag 67320
tagaagagct gggagccatca cgtttgaagg ggaagacagt gactgggtgg aggggcaagg 67380
gattagtatt tagagtgtgc aactattgaa aataaggtat attttaatgt gtaagaggac 67440
atgtacttat atgttatata taaattattt tagctgggtg aagtggctca tgcctatagt 67500
cctagcactt tgggaggccc aggcgggagg atcacttgag cctgggagtt tgagaacagc 67560
ctagacaaca tagtgagacc ctatctatac aaaaataatt tttttaaat tagccacgtg 67620
```

```
tggtggtttg tgcctgtagt cctagctact cgggaggctg aggtgggagg attgcttaag 67680
cccaggaggt tgaggctgca gtgagccatg atcgcaccac tgcactccag cctgggtgac 67740
agagcaagac cttgactcac caaaaaaaaa aaaaaaaaaa agagagagaa attaaaaata 67800
ctgtaatctc agctgggcat gggggttcac acctgcagtc ctagcacttt gggaggctga 67860
agcaggagga tcacttgagg ccaggaactc aagaccagcc tggcaacata gcaagacccc 67920
actacacaca cacacacaca cacacacaaa gaagagaaag aaaaaaacga aacaaaactg 67980
taatctctgc agctgtcctc agtgtggagg gggtagccct gtctgttccc cttcagcact 68040
tgctgttttg actctctggg ttctttgtgc aggtcttgat ggggagtctc tggtttgcca 68100
ttctttgttt gatttaactt tctgtaatca taaagcaat gatgggcttt tttttttttt 68160
ttttttttag actaagtctt gctctatcac ccaagctgga gtgcagtggc accatctcgg 68220
ctcactgcaa cctccacctc ccggttcaag caattctcct gcctcagcct cccgagtagc 68280
tgggattatg ggcttgtgcc accatgccca gctgattttt gtattttttg tagagaaagg 68340
gtttcgccat gttggccagg ctggcctcga actcctgacc tcaggtgatc tgcccacttc 68400
agcctcccaa agtgctggga ttacaggcgt gagccactgt gcctggccta atgatgggct 68460
ctttaatgtg atcctttagg gttggcgcct tgccctagtt gctgttgaaa aaactatttt 68520
tgtccaaata gcacacacac agaaacctac caacttccct cccacttttt cctaggaatt 68580
ccttctgagg gatttcttga gatggggcag aatggggctt ggaagaggga gttggagcta 68640
attgaccgtt gcctttctcc tttgttgggg tcctgagtct tgttcctgct gtaagagtta 68700
ctcacttcct gtctgccacc tatctccctt tgcatgtgtg cttcagttgg gagatctgtt 68760
tatcagcccc tgccacacgg ctctttgttc cttctgcaga ggacgttggg gtcccacggc 68820
tggtcctttt gactcatttt gctttcaagg tcccacctcc cagtctgagg ctgcatcctc 68880
cattaccatc gcccttcctg tgggctggga ggccaggtcc tttcctgccc agcgatgtca 68940
gcgtttcctc aggggccagg cactcatcag gagaaaggaa ctaattactt gagtaatttg 69000
ccttgccttg ctgagaggag tgtgccctga gggactccat gtgagtgtgg tgacgggtgt 69060
gggggtgtcc ctgtgttatt ttaaaatggg tgccttcagg acgatgagca tgtgaccatt 69120
tcctctctat ttccatcaca agagtattat ggtatgaggg tctcaggtta gattatcctc 69180
ccaagactct tctctcttcc ttctctactg gaagcccaca tagcatttcc ttatggcttg 69240
agggagaggt tcggagccac ttacaaatta gataaagtac atttacaatc ttgtacaaag 69300
ccacacaatg aagtcatttt tctcagcttt tttttttttt tttttttttt ttttgagcct 69360
gagtctcgct ctatcgtcca gactggagtg cagtggcgcg atcttgcttc actgaaacct 69420
ctgcctccca ggttcaagag attctcatac ctcagcctcc tgagtagctg ggattacaga 69480
catgcaccac tatgcctggc taattttttgg attttttagta gagaccgggt ttcaccctgt 69540
tggccaggct ggtctcgaac ccctgacctc aagtgatctt cccgcctggg cctcccaaag 69600
tgctgggatt ataggtgtga gccacagtgc ccagccttgt ttttgttttt gttttgtttt 69660
gacagtctgt cactctgtca cccaggctgg agtgcagtgg tgcgatctca cctcacttca 69720
gcctctgcct cccaggttca agtgattctc ctgtctcagc ctcctgagta gctgggatta 69780
caggcgtgcc accacgccca gctatttttg taatttcatt aaagacaggg tttccccatg 69840
ttggtgaggc tggtcttgaa ctcctggcct caagtgatcc acctgcttca gcctcccaaa 69900
gtgcagggat tacaggcatg agccactgtg cctggcctca gctatcttga atgctggaga 69960
attaaatcct tttctgtcta gggtgtcagc tccctaaggg ctgggccaaa acagttggat 70020
ttataagaca ctagagtctt gcctcagtag ctcctttgaa ttctgcactg aattgatcag 70080
tttcttggcc caaagtaaac tcagatggca gcccaagagc cactctgcag tgccttcttt 70140
cacatggtca tcatgctctc tgatccctca ggttctgtct aagcctcatg ttttatgacc 70200
gtgctgttct cagcccacct caccctgccc catgccttcat caatggtttg ttcacctgaa 70260
ttccccagat ttcatgccag tatccccaag gttccttgac ctcttggtgt aagcattcag 70320
catctaaaat tcattttatt cccgtcaacg catttctaac tgtagaacaa gaattataaa 70380
tgacaaagct catagaaaat tggcaccttg tcttccccct ccctcttatt ttatacataa 70440
aagagaatat gggctgggca ttgtggccaa ggctgggcat gatagctcat acttgtaatc 70500
cagcactttg ggagggtgag gcagatggat cacctgaggt caggagttca agaccagcct 70560
ggccaacatg gtgaaacctc atctctacta aaattacaaa aaaaaaatta gctaggcatg 70620
gtggcagatg cctgtaatcc agctactcag gaggctgatg aaggagaatc acttgaaccc 70680
tggaggcaga ggttgtagag agccaagatg gcgctactgc actccaacct gggcgaaaga 70740
gagcaagact ccgtctcaaa aaaaaaaaag acaaaaatta gccaggcatg gtggtgccac 70800
ctgtagtccc agctgcttgg gagcctaagg caggagaatc gtttttgacct gggagtagga 70860
ggttgcggta accgagattg tgccactgca cttgagcctg ggcaacagag tgagactctg 70920
tctcaaaaca ataagaacaa cagcaacaaa agagagagac catgccttgc tccaggtctc 70980
ttagctattg aagatgtacc tggacccagg tctccggtct tctagttgaa gcaattgtac 71040
tgccttacaa agtcacattc tctttggtgc tttttgattg acgtatttat ccaactagaa 71100
agttactcat gccctcatcc aaaaatgtgg tagaggccag attagtgctg gtaggaataa 71160
gagatataac ctttggcttt ggaaccacaa gcattagcag tctccatgtt ctttaaagac 71220
ttggtgatat tggtatttag gctggacacc atgcaaagac tacacaggct cggttcctgc 71280
atgcagagaa gttatctaag agatatgacc aggccggaat agaatgctca gaccacgtgg 71340
aggctgttaa acttttacat aatctaggga aagaagggac acaaggtggc attagtctag 71400
ggtcaggtgg gaaaaggtta tgctgaaaag tctctgcagc tcaggacagc tttgtgcaaa 71460
gaactgaagt tcacagctgc tagtgcctgg gagatcaaat agtataaatg agggcagaca 71520
accctgaggg gcagatggag ctttccagac aatcttggca tgaggatgag tgagtttcaa 71580
atcagtcctg ccgaggcaga tggcttcctc cagctctgct tactgaatgc gaagtcacag 71640
tcagtaagaa aactggtttt cttcttccca ggcgctgccc catacctgaa gaccaagttt 71700
```

X-17294.txt

```
atctgtgtga caccgtaagt ggcttccttt ccccgttttg ccttcatttc taatatcctc 71760
agttatccct gggaatggga cactgggtga gagttaatct gccaaaggtt ggaagcccct 71820
gggctatgtt tagtactcaa agtgaccttg tgtgtttaaa aagcttgagc ttttattttt 71880
ctgttggaga ccagagtttg atggcttgtg tgtgtgtgtt ttgttctttt tttttttttcc 71940
attgtgtctt gtcaaccccc cgtttcccct cctgctgccc cccatttcct acagaacgac 72000
ctgcagcaat accattgacc tgccgatgtc cccccgcact ttagattcat tgatgcagtt 72060
tggaaataat ggtgaaggtg ctgaaccctc agcaggaggg cagtttggtg agtatttggt 72120
tgacagactt tgtccctata agggaagttg gtcccctttg tgtgatgctc tcacatgtac 72180
acaccgagag ctggtcactc ggaatggtag gagattctag agctttgctt tccaaaagag 72240
atggtatgaa tgccacatgt gtgagtataa atcttctagc agccacactg gaaatagacg 72300
aacttaattt ttacaatata ttttatttaa cccactaaat ccaacatact ctcaatttaa 72360
catttcagaa aaagttgagg ctgggtgagt ggctcatgcc tgtaatccca gcactttggg 72420
aggccgaggt gggtggatca cttgaggtca ggagttcgag accagtctga ccaaaatctc 72480
taaaatataa aaattagctg ggcatggtgg cgcatacctg taatcccagc tactcaagaa 72540
gctgaggtgg gaggatcgct tgagcctggg aggtggaggt tgcagtgagc agagatcgtg 72600
ccactgcact ccagcctggg cgacagagtg agactccatc tcaaataaac aaaactaaac 72660
taaaaagaaa aagttgagac cttttttat tcttttttttt catactaagc ctttaaaatc 72720
cagtgggctt ttgacagcca cagcacagct cagtttggac aaaccaaatc tcaaatgctt 72780
ggtggccacg tgtgtctcgg ggctcctgaa ttaaacagta gatcaagggc agaagatctc 72840
aggacagcct tagagcttct gtaaacatgg agctctggga atcagttaag gtgggaatga 72900
gaaaggaccc ttcccgaggc agggtcctcc agggaggagg gtaaatctgg ctttttctgac 72960
catccctggg ccttaagggg caggagattg gatagcagtg gtagcctggg ccctgtcctc 73020
tgaagggctg ggggcgtggc ctgccagttg cagagggtgg acaactgaac tagttttccc 73080
tgtctgtccc tccagagtcc ctcacctttg acatggagtt gacctcggag tgcgctacct 73140
cccccatgtg aggagctgag aacggaagct gcagaaagat acgactgagg cgcctacctg 73200
cattctgcca cccctcacac agccaaaccc cagatcatct gaaactacta actttgtggt 73260
tccagatttt ttttaatctc ctacttctgc tatctttgag caatctggc acttttaaaa 73320
atagagaaat gagtgaatgt gggtgatctg cttttatcta aatgcaaata aggatgtgtt 73380
ctctgagacc catgatcagg ggatgtggcg gggggtggct agagggagaa aaaggaaatg 73440
tcttgtgttg ttttgttccc ctgccctcct ttctcagcag cttttttgtta ttgttgttgt 73500
tgttcttaga caagtgcctc ctggtgcctg cggcatcctt ctgcctgttt ctgtaagcaa 73560
atgccacagg ccacctatag ctacatactc ctggcattgc acttttaac cttgctgaca 73620
tccaaataga agataggact atctaagccc taggtttctt tttaaattaa gaaataataa 73680
caattaaagg gcaaaaaaca ctgtatcagc atagcctttc tgtatttaag aaacttaagc 73740
agccgggcat ggtggctcac gcctgtaatc ccagcacttt gggaggccga ggcggatcat 73800
aaggtcagga gatcaagacc atcctggcta acacggtgaa accccgtctc tactaaaagt 73860
acaaaaaatt agctgggtgt ggtggtgggc gcctgtagtc ccagctactc gggaggctga 73920
ggcaggagaa tcgcttgaac ctgagaggcg gaggttgcag tgagccaaaa ttgcaccact 73980
gcacactgca ctccatcctg ggcgacagtc tgagactctg tctcaaaaaa aaaaaaaaa 74040
aaaagaaact tcagttaaca gcctccttgg tgctttaagc attcagcttc cttcaggctg 74100
gtaatttata taatccctga aacgggcttc aggtcaaacc cttaagacat ctgaagctgc 74160
aacctggcct ttggtgttga aataggaagg tttaaggaga atctaagcat tttagacttt 74220
tttttataaa tagacttatt ttcctttgta atgtattggc cttttagtga gtaaggctgg 74280
gcagagggtg cttacaacct tgactccctt tctccctgga cttgatctgc tgtttcagag 74340
gctaggttgt ttctgtgggt gccttatcag ggctgggata cttctgattc tggcttcctt 74400
cctgccccac cctcccgacc ccag                                        74424
```

<210> 154
<211> 3455
<212> DNA
<213> H. sapiens

<220>
<221> CDS
<222> (241)...(2553)

<400> 154
```
ggtttccgga gctgcggcgg cgcagactgg gagggggagc cggggggttcc gacgtcgcag 60
ccgagggaac aagccccaac cggatcctgg acaggcaccc cggcttggcg ctgtctctcc 120
ccctcggctc ggagaggccc ttcggcctga gggagcctcg ccgcccgtcc ccggcacacg 180
cgcagccccg gcctctcggc ctctgccgga gaaacagttg ggaccctga ttttagcagg 240
atg gcc caa tgg aat cag cta cag cag ctt gac aca cgg tac ctg gag  288
Met Ala Gln Trp Asn Gln Leu Gln Gln Leu Asp Thr Arg Tyr Leu Glu
1               5                   10                  15

cag ctc cat cag ctc tac agt gac agc ttc cca atg gag ctg cgg cag  336
```
Page 47

```
          Gln Leu His Gln Leu Tyr Ser Asp Ser Phe Pro Met Glu Leu Arg Gln
                  20                  25              30

          ttt ctg gcc cct tgg att gag agt caa gat tgg gca tat gcg gcc agc   384
          Phe Leu Ala Pro Trp Ile Glu Ser Gln Asp Trp Ala Tyr Ala Ala Ser
                  35                  40                  45

          aaa gaa tca cat gcc act ttg gtg ttt cat aat ctc ctg gga gag att   432
          Lys Glu Ser His Ala Thr Leu Val Phe His Asn Leu Leu Gly Glu Ile
                  50                  55                  60

          gac cag cag tat agc cgc ttc ctg caa gag tcg aat gtt ctc tat cag   480
          Asp Gln Gln Tyr Ser Arg Phe Leu Gln Glu Ser Asn Val Leu Tyr Gln
          65                  70                  75                  80

          cac aat cta cga aga atc aag cag ttt ctt cag agc agg tat ctt gag   528
          His Asn Leu Arg Arg Ile Lys Gln Phe Leu Gln Ser Arg Tyr Leu Glu
                          85                  90                  95

          aag cca atg gag att gcc cgg att gtg gcc cgg tgc ctg tgg gaa gaa   576
          Lys Pro Met Glu Ile Ala Arg Ile Val Ala Arg Cys Leu Trp Glu Glu
                          100                 105                 110

          tca cgc ctt cta cag act gca gcc act gcg gcc cag caa ggg ggc cag   624
          Ser Arg Leu Leu Gln Thr Ala Ala Thr Ala Ala Gln Gln Gly Gly Gln
                  115                 120                 125

          gcc aac cac ccc aca gca gcc gtg gtg acg gag aag cag cag atg ctg   672
          Ala Asn His Pro Thr Ala Ala Val Val Thr Glu Lys Gln Gln Met Leu
                  130                 135                 140

          gag cag cac ctt cag gat gtc cgg aag aga gtg cag gat cta gaa cag   720
          Glu Gln His Leu Gln Asp Val Arg Lys Arg Val Gln Asp Leu Glu Gln
          145                 150                 155                 160

          aaa atg aaa gtg gta gag aat ctc cag gat gac ttt gat ttc aac tat   768
          Lys Met Lys Val Val Glu Asn Leu Gln Asp Asp Phe Asp Phe Asn Tyr
                          165                 170                 175

          aaa acc ctc aag agt caa gga gac atg caa gat ctg aat gga aac aac   816
          Lys Thr Leu Lys Ser Gln Gly Asp Met Gln Asp Leu Asn Gly Asn Asn
                          180                 185                 190

          cag tca gtg acc agg cag aag atg cag cag ctg gaa cag atg ctc act   864
          Gln Ser Val Thr Arg Gln Lys Met Gln Gln Leu Glu Gln Met Leu Thr
                  195                 200                 205

          gcg ctg gac cag atg cgg aga agc atc gtg agt gag ctg gcg ggg ctt   912
          Ala Leu Asp Gln Met Arg Arg Ser Ile Val Ser Glu Leu Ala Gly Leu
                  210                 215                 220

          ttg tca gcg atg gag tac gtg cag aaa act ctc acg gac gag gag ctg   960
          Leu Ser Ala Met Glu Tyr Val Gln Lys Thr Leu Thr Asp Glu Glu Leu
          225                 230                 235                 240

          gct gac tgg aag agg cgg caa cag att gcc tgc att gga ggc ccg ccc   1008
          Ala Asp Trp Lys Arg Arg Gln Gln Ile Ala Cys Ile Gly Gly Pro Pro
                          245                 250                 255

          aac atc tgc cta gat cgg cta gaa aac tgg ata acg tca tta gca gaa   1056
          Asn Ile Cys Leu Asp Arg Leu Glu Asn Trp Ile Thr Ser Leu Ala Glu
                          260                 265                 270

          tct caa ctt cag acc cgt caa caa att aag aaa ctg gag gag ttg cag   1104
          Ser Gln Leu Gln Thr Arg Gln Gln Ile Lys Lys Leu Glu Glu Leu Gln
                  275                 280                 285

          caa aaa gtt tcc tac aaa ggg gac ccc att gta cag cac cgg ccg atg   1152
```

```
      Gln Lys Val Ser Tyr Lys Gly Asp Pro Ile Val Gln His Arg Pro Met
          290             295             300

      ctg gag gag aga atc gtg gag ctg ttt aga aac tta atg aaa agt gcc    1200
      Leu Glu Glu Arg Ile Val Glu Leu Phe Arg Asn Leu Met Lys Ser Ala
      305             310             315             320

      ttt gtg gtg gag cgg cag ccc tgc atg ccc atg cat cct gac cgg ccc    1248
      Phe Val Val Glu Arg Gln Pro Cys Met Pro Met His Pro Asp Arg Pro
                      325             330             335

      ctc gtc atc aag acc ggc gtc cag ttc act act aaa gtc agg ttg ctg    1296
      Leu Val Ile Lys Thr Gly Val Gln Phe Thr Thr Lys Val Arg Leu Leu
                  340             345             350

      gtc aaa ttc cct gag ttg aat tat cag ctt aaa att aaa gtg tgc att    1344
      Val Lys Phe Pro Glu Leu Asn Tyr Gln Leu Lys Ile Lys Val Cys Ile
              355             360             365

      gac aaa gac tct ggg gac gtt gca gct ctc aga gga tcc cgg aaa ttt    1392
      Asp Lys Asp Ser Gly Asp Val Ala Ala Leu Arg Gly Ser Arg Lys Phe
          370             375             380

      aac att ctg ggc aca aac aca aaa gtg atg aac atg gaa gaa tcc aac    1440
      Asn Ile Leu Gly Thr Asn Thr Lys Val Met Asn Met Glu Glu Ser Asn
      385             390             395             400

      aac ggc agc ctc tct gca gaa ttc aaa cac ttg acc ctg agg gag cag    1488
      Asn Gly Ser Leu Ser Ala Glu Phe Lys His Leu Thr Leu Arg Glu Gln
                      405             410             415

      aga tgt ggg aat ggg ggc cga gcc aat tgt gat gct tcc ctg att gtg    1536
      Arg Cys Gly Asn Gly Gly Arg Ala Asn Cys Asp Ala Ser Leu Ile Val
                  420             425             430

      act gag gag ctg cac ctg atc acc ttt gag acc gag gtg tat cac caa    1584
      Thr Glu Glu Leu His Leu Ile Thr Phe Glu Thr Glu Val Tyr His Gln
              435             440             445

      ggc ctc aag att gac cta gag acc cac tcc ttg cca gtt gtg gtg atc    1632
      Gly Leu Lys Ile Asp Leu Glu Thr His Ser Leu Pro Val Val Val Ile
          450             455             460

      tcc aac atc tgt cag atg cca aat gcc tgg gcg tcc atc ctg tgg tac    1680
      Ser Asn Ile Cys Gln Met Pro Asn Ala Trp Ala Ser Ile Leu Trp Tyr
      465             470             475             480

      aac atg ctg acc aac aat ccc aag aat gta aac ttt ttt acc aag ccc    1728
      Asn Met Leu Thr Asn Asn Pro Lys Asn Val Asn Phe Phe Thr Lys Pro
                      485             490             495

      cca att gga acc tgg gat caa gtg gcc gag gtc ctg agc tgg cag ttc    1776
      Pro Ile Gly Thr Trp Asp Gln Val Ala Glu Val Leu Ser Trp Gln Phe
                  500             505             510

      tcc tcc acc acc aag cga gga ctg agc atc gag cag ctg act aca ctg    1824
      Ser Ser Thr Thr Lys Arg Gly Leu Ser Ile Glu Gln Leu Thr Thr Leu
              515             520             525

      gca gag aaa ctc ttg gga cct ggt gtg aat tat tca ggg tgt cag atc    1872
      Ala Glu Lys Leu Leu Gly Pro Gly Val Asn Tyr Ser Gly Cys Gln Ile
          530             535             540

      aca tgg gct aaa ttt tgc aaa gaa aac atg gct ggc aag ggc ttc tcc    1920
      Thr Trp Ala Lys Phe Cys Lys Glu Asn Met Ala Gly Lys Gly Phe Ser
      545             550             555             560

      ttc tgg gtc tgg ctg gac aat atc att gac ctt gtg aaa aag tac atc    1968
```

```
Phe Trp Val Trp Leu Asp Asn Ile Ile Asp Leu Val Lys Lys Tyr Ile
            565             570             575

ctg gcc ctt tgg aac gaa ggg tac atc atg ggc ttt atc agt aag gag   2016
Leu Ala Leu Trp Asn Glu Gly Tyr Ile Met Gly Phe Ile Ser Lys Glu
        580             585             590

cgg gag cgg gcc atc ttg agc act aag cct cca ggc acc ttc ctg cta   2064
Arg Glu Arg Ala Ile Leu Ser Thr Lys Pro Pro Gly Thr Phe Leu Leu
        595             600             605

aga ttc agt gaa agc agc aaa gaa gga ggc gtc act ttc act tgg gtg   2112
Arg Phe Ser Glu Ser Ser Lys Glu Gly Gly Val Thr Phe Thr Trp Val
    610             615             620

gag aag gac atc agc ggt aag acc cag atc cag tcc gtg gaa cca tac   2160
Glu Lys Asp Ile Ser Gly Lys Thr Gln Ile Gln Ser Val Glu Pro Tyr
625             630             635             640

aca aag cag cag ctg aac aac atg tca ttt gct gaa atc atc atg ggc   2208
Thr Lys Gln Gln Leu Asn Asn Met Ser Phe Ala Glu Ile Ile Met Gly
                645             650             655

tat aag atc atg gat gct acc aat atc ctg gtg tct cca ctg gtc tat   2256
Tyr Lys Ile Met Asp Ala Thr Asn Ile Leu Val Ser Pro Leu Val Tyr
                660             665             670

ctc tat cct gac att ccc aag gag gag gca ttc gga aag tat tgt cgg   2304
Leu Tyr Pro Asp Ile Pro Lys Glu Glu Ala Phe Gly Lys Tyr Cys Arg
            675             680             685

cca gag agc cag gag cat cct gaa gct gac cca ggt agc gct gcc cca   2352
Pro Glu Ser Gln Glu His Pro Glu Ala Asp Pro Gly Ser Ala Ala Pro
        690             695             700

tac ctg aag acc aag ttt atc tgt gtg aca cca acg acc tgc agc aat   2400
Tyr Leu Lys Thr Lys Phe Ile Cys Val Thr Pro Thr Thr Cys Ser Asn
705             710             715             720

acc att gac ctg ccg atg tcc ccc cgc act tta gat tca ttg atg cag   2448
Thr Ile Asp Leu Pro Met Ser Pro Arg Thr Leu Asp Ser Leu Met Gln
            725             730             735

ttt gga aat aat ggt gaa ggt gct gaa ccc tca gca gga ggg cag ttt   2496
Phe Gly Asn Asn Gly Glu Gly Ala Glu Pro Ser Ala Gly Gly Gln Phe
            740             745             750

gag tcc ctc acc ttt gac atg gag ttg acc tcg gag tgc gct acc tcc   2544
Glu Ser Leu Thr Phe Asp Met Glu Leu Thr Ser Glu Cys Ala Thr Ser
        755             760             765

ccc atg tga ggagctgaga acggaagctg cagaaagata cgactgaggc          2593
Pro Met  *
770
```

```
gcctacctgc attctgccac ccctcacaca gccaaacccc agatcatctg aaactactaa 2653
ctttgtggtt ccagattttt tttaatctcc tacttctgct atctttgagc aatctgggca 2713
cttttaaaaa tagagaaatg agtgaatgtg ggtgatctgc ttttatctaa atgcaaataa 2773
ggatgtgttc tctgagaccc atgatcaggg gatgtggcgg ggggtggcta gagggagaaa 2833
aaggaaatgt cttgtgttgt tttgttcccc tgccctcctt tctcagcagc ttttttgttat 2893
tgttgttgtt gttcttagac aagtgcctcc tggtgcctgc ggcatccttc tgcctgtttc 2953
tgtaagcaaa tgccacaggc cacctatagc tacatactcc tggcattgca ctttttaacc 3013
ttgctgacat ccaaatagaa gataggacta tctaagccct aggtttcttt ttaaattaag 3073
aaataataac aattaaaggg caaaaaacac tgtatcagca tagcctttct gtatttaaga 3133
aacttaagca gccgggcatg gtggctcacg cctgtaatcc cagcactttg ggaggccgag 3193
gcggatcata aggtcaggag atcaagacca tcctggctaa cacggtgaaa ccccgtctct 3253
actaaaagta caaaaaatta gctgggtgtg gtggtgggcg cctgtagtcc cagctactcg 3313
ggaggctgag gcaggagaat cgcttgaacc tgagaggcgg aggttgcagt gagccaaaat 3373
```

```
tgcaccactg cacactgcac tccatcctgg gcgacagtct gagactctgt ctcaaaaaaa 3433
aaaaaaaaaa aaaaaaaaaa aa                                           3455
```

```
<210> 155
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 155
gtgcgcgcga gcccgaaatc                                                20

<210> 156
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

<400> 156
acatgccact ttggtgtttc ataa                                           24

<210> 157
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

<400> 157
tcttcgtaga ttgtgctgat agagaac                                        27

<210> 158
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Probe

<400> 158
cagtatagcc gcttcctgca agagtcgaa                                      29

<210> 159
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 159
agcctctgca ccctcatgtt                                                20

<210> 160
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 160
ctcctaaatt aagaacttct                                                20
```

```
<210> 161
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 161
ttttgcatga tgtaaccact                                                    20

<210> 162
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 162
tattgaaaat tatctaattc                                                    20

<210> 163
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 163
ttgggccatc ctgctaaaat                                                    20

<210> 164
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 164
attcacttgc ctccttgact                                                    20

<210> 165
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 165
atgcccttac tctccgcatc                                                    20

<210> 166
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 166
ctgaacttac cctctgagag                                                    20

<210> 167
```

<210> 167
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 167
aaatgcggac ccaagagttt   20

<210> 168
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 168
cttgttccct cggctgcgac   20

<210> 169
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 169
gcctgtccag gatccggttg   20

<210> 170
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 170
gaagggcctc tccgagccga   20

<210> 171
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 171
ggcggcgagg ctccctcagg   20

<210> 172
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 172
tccggcagag gccgagaggc   20

<210> 173
<211> 20
<212> DNA

<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 173
ccatcctgct aaaatcaggg   20

<210> 174
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 174
ccattgggcc atcctgctaa   20

<210> 175
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 175
tgtcaagctg ctgtagctga   20

<210> 176
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 176
aactgccgca gctccattgg   20

<210> 177
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 177
tcttgactct caatccaagg   20

<210> 178
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 178
cgcatatgcc caatcttgac   20

<210> 179
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 179
cgactcttgc aggaagcggc   20

<210> 180
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 180
tcgtagattg tgctgataga   20

<210> 181
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 181
agaaactgct tgattcttcg   20

<210> 182
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 182
gatacctgct ctgaagaaac   20

<210> 183
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 183
ttctcaagat acctgctctg   20

<210> 184
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 184
ttggcttctc aagatacctg   20

<210> 185
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 185
gtgattcttc ccacaggcac   20

<210> 186
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 186
atctgctgct tctccgtcac   20

<210> 187
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 187
ccagcatctg ctgcttctcc   20

<210> 188
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 188
tgaaggtgct gctccagcat   20

<210> 189
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 189
ttctgttcta gatcctgcac   20

<210> 190
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 190
ctggagattc tctaccactt   20

<210> 191
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 191

aagtcatcct ggagattctc   20

```
<210> 192
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 192
```
aatcaaagtc atcctggaga   20

```
<210> 193
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 193
```
gttgaaatca aagtcatcct   20

```
<210> 194
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 194
```
ttatagttga aatcaaagtc   20

```
<210> 195
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 195
```
gggtttata gttgaaatca   20

```
<210> 196
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 196
```
cttgagggtt ttatagttga   20

```
<210> 197
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 197
```
tgactcttga gggtttata   20

```
<210> 198
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 198
ctccttgact cttgagggtt                                                    20

<210> 199
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 199
catgtctcct tgactcttga                                                    20

<210> 200
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 200
attcagatct tgcatgtctc                                                    20

<210> 201
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 201
tggttgtttc cattcagatc                                                    20

<210> 202
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 202
tggtcactga ctggttgttt                                                    20

<210> 203
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 203
tccagctgct gcatcttctg                                                    20

<210> 204
<211> 20
```

```
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 204
gagcatctgt tccagctgct                                                    20

<210> 205
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 205
cttctccgca tctggtccag                                                    20

<210> 206
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 206
ttctgcacgt actccatcgc                                                    20

<210> 207
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 207
cagccagctc ctcgtccgtg                                                    20

<210> 208
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 208
ctcttccagt cagccagctc                                                    20

<210> 209
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 209
tgccgcctct tccagtcagc                                                    20

<210> 210
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Antisense oligonucleotide

<400> 210
ccagttttct agccgatcta   20

<210> 211
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 211
acgttatcca gttttctagc   20

<210> 212
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 212
agttgagatt ctgctaatga   20

<210> 213
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 213
tctgaagttg agattctgct   20

<210> 214
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 214
cctttgtagg aaactttttg   20

<210> 215
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 215
aggcactttt cattaagttt   20

<210> 216
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense oligonucleotide

<400> 216
ttgaccagca acctgacttt   20

<210> 217
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 217
agctgataat tcaactcagg   20

<210> 218
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 218
ttttaagctg ataattcaac   20

<210> 219
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 219
ctttaatttt aagctgataa   20

<210> 220
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 220
gcacacttta attttaagct   20

<210> 221
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 221
tcaatgcaca ctttaatttt   20

<210> 222
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 222
cccagaatgt taaatttccg   20

<210> 223
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 223
agaggctgcc gttgttggat   20

<210> 224
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 224
aagtgtttga attctgcaga   20

<210> 225
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 225
tctctgctcc ctcagggtca   20

<210> 226
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 226
atcaggtgca gctcctcagt   20

<210> 227
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 227
aggtgatcag gtgcagctcc   20

<210> 228
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 228
ctcaaaggtg atcaggtgca   20

```
<210> 229
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 229
gaggccttgg tgatacacct                                                          20

<210> 230
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 230
tcaatcttga ggccttggtg                                                          20

<210> 231
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 231
ctaggtcaat cttgaggcct                                                          20

<210> 232
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 232
ggtctctagg tcaatcttga                                                          20

<210> 233
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 233
aaggagtggg tctctaggtc                                                          20

<210> 234
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 234
ctggcaagga gtgggtctct                                                          20

<210> 235
```

<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 235
accacaactg gcaaggagtg   20

<210> 236
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 236
tctgacagat gttggagatc   20

<210> 237
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 237
tggcatctga cagatgttgg   20

<210> 238
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 238
gcatttggca tctgacagat   20

<210> 239
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 239
ttcttgggat tgttggtcag   20

<210> 240
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 240
gtcagctgct cgatgctcag   20

<210> 241
<211> 20
<212> DNA

<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 241
tcccaagagt ttctctgcca   20

<210> 242
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 242
catgtgatct gacaccctga   20

<210> 243
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 243
tagcccatgt gatctgacac   20

<210> 244
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 244
gccatgtttt ctttgcaaaa   20

<210> 245
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 245
ccttgccagc catgttttct   20

<210> 246
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 246
gaagcccttg ccagccatgt   20

<210> 247
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 247
aaggagaagc ccttgccagc   20

<210> 248
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 248
cccagaagga gaagcccttg   20

<210> 249
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 249
tccagccaga cccagaagga   20

<210> 250
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 250
tctttgctgc tttcactgaa   20

<210> 251
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 251
atgttgttca gctgctgctt   20

<210> 252
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 252
atgacatgtt gttcagctgc   20

<210> 253
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 253
agcaaatgac atgttgttca   20

<210> 254
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 254
atttcagcaa atgacatgtt   20

<210> 255
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 255
tgatgatttc agcaaatgac   20

<210> 256
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 256
ttatagccca tgatgatttc   20

<210> 257
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 257
tgatcttata gcccatgatg   20

<210> 258
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 258
atccatgatc ttatagccca   20

<210> 259
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 259

ggtagcatcc atgatcttat   20

<210> 260
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 260
aatgtcagga tagagataga   20

<210> 261
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 261
gcctcctcct tgggaatgtc   20

<210> 262
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 262
tccgaatgcc tcctccttgg   20

<210> 263
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 263
tactttccga atgcctcctc   20

<210> 264
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 264
gacaatactt tccgaatgcc   20

<210> 265
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 265
ctacctgggt cagcttcagg   20

<210> 266
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 266
ataaacttgg tcttcaggta   20

<210> 267
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 267
gtcgttggtg tcacacagat   20

<210> 268
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 268
tgcaggtcgt tggtgtcaca   20

<210> 269
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 269
attgctgcag gtcgttggtg   20

<210> 270
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 270
atggtattgc tgcaggtcgt   20

<210> 271
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 271
ggtcaatggt attgctgcag   20

<210> 272
<211> 20

```
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 272
gacatcggca ggtcaatggt                                                    20

<210> 273
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 273
caatgaatct aaagtgcggg                                                    20

<210> 274
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 274
tgcatcaatg aatctaaagt                                                    20

<210> 275
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 275
caaactgcat caatgaatct                                                    20

<210> 276
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 276
atttccaaac tgcatcaatg                                                    20

<210> 277
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 277
aactgccctc ctgctgaggg                                                    20

<210> 278
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Antisense oligonucleotide

<400> 278
ggtgagggac tcaaactgcc   20

<210> 279
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 279
cagtcgtatc tttctgcagc   20

<210> 280
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 280
agatagcaga agtaggagat   20

<210> 281
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 281
aaagtgccca gattgctcaa   20

<210> 282
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 282
tttttaaaag tgcccagatt   20

<210> 283
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 283
cagatcaccc acattcactc   20

<210> 284
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense oligonucleotide

<400> 284
tgcatttaga taaaagcaga   20

<210> 285
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 285
gaacacatcc ttatttgcat   20

<210> 286
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 286
atcatgggtc tcagagaaca   20

<210> 287
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 287
cacatcccct gatcatgggt   20

<210> 288
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 288
agacatttcc tttttctccc   20

<210> 289
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 289
accaggaggc acttgtctaa   20

<210> 290
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 290
gcaggcacca ggaggcactt   20

<210> 291
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 291
gcttacagaa acaggcagaa   20

<210> 292
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 292
aggtggcctg tggcatttgc   20

<210> 293
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 293
gtatgtagct ataggtggcc   20

<210> 294
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 294
gcaatgccag gagtatgtag   20

<210> 295
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 295
ttaaaaagtg caatgccagg   20

<210> 296
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 296
ggcttagata gtcctatctt   20

```
<210> 297
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 297
taaaaagaaa cctagggctt                                                    20

<210> 298
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 298
atacagaaag gctatgctga                                                    20

<210> 299
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 299
ttaagtttct taaatacaga                                                    20

<210> 300
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 300
gcatctgctg cttctccgtc                                                    20

<210> 301
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 301
cagcatctgc tgcttctccg                                                    20

<210> 302
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 302
tccagcatct gctgcttctc                                                    20

<210> 303
```

```
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 303
ctccagcatc tgctgcttct                                                  20

<210> 304
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 304
tgctccagca tctgctgctt                                                  20

<210> 305
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 305
tgctgctcca gcatctgctg                                                  20

<210> 306
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 306
ggtgctgctc cagcatctgc                                                  20

<210> 307
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 307
aaggtgctgc tccagcatct                                                  20

<210> 308
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 308
tgggattgtt ggtcagcatg                                                  20

<210> 309
<211> 20
<212> DNA
```

<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 309
attcttggga ttgttggtca   20

<210> 310
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 310
acattcttgg gattgttggt   20

<210> 311
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 311
cacattcttg ggattgttgg   20

<210> 312
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 312
ttcacattct gggattgtt   20

<210> 313
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 313
agttcacatt cttgggattg   20

<210> 314
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 314
gaagttcaca ttcttgggat   20

<210> 315
<211> 20
<212> DNA
<213> Artificial Sequence

```
<220>
<223> Antisense oligonucleotide

<400> 315
agattatgaa acaccaaagt                                                    20

<210> 316
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 316
ggagattatg aaacaccaaa                                                    20

<210> 317
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 317
caggagatta tgaaacacca                                                    20

<210> 318
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 318
tcccaggaga ttatgaaaca                                                    20

<210> 319
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 319
ctcccaggag attatgaaac                                                    20

<210> 320
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 320
ctctcccagg agattatgaa                                                    20

<210> 321
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide
```

<400> 321
atctctccca ggagattatg   20

<210> 322
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 322
cttgccagcc atgttttctt   20

<210> 323
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 323
cccttgccag ccatgttttc   20

<210> 324
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 324
agcccttgcc agccatgttt   20

<210> 325
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 325
gagaagccct tgccagccat   20

<210> 326
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 326
aggagaagcc cttgccagcc   20

<210> 327
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 327

gaaggagaag cccttgccag   20

```
<210> 328
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 328
```
aagcccttgc cagccatgtt   20

```
<210> 329
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 329
```
agaagccctt gccagccatg   20

```
<210> 330
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 330
```
agaaggagaa gcccttgcca   20

```
<210> 331
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 331
```
ccagaaggag aagcccttgc   20

```
<210> 332
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 332
```
acccagaagg agaagccctt   20

```
<210> 333
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 333
```
tgcctcctcc ttgggaatgt   20

```
<210> 334
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 334
aatgcctcct ccttgggaat                                                    20

<210> 335
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 335
cgaatgcctc ctccttggga                                                    20

<210> 336
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 336
ttccgaatgc ctcctccttg                                                    20

<210> 337
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 337
tttccgaatg cctcctcctt                                                    20

<210> 338
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 338
actttccgaa tgcctcctcc                                                    20

<210> 339
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 339
ttgcaggaag cggctatact                                                    20

<210> 340
<211> 20
```

<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 340
tcttgcagga agcggctata   20

<210> 341
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 341
actcttgcag gaagcggcta   20

<210> 342
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 342
gactcttgca ggaagcggct   20

<210> 343
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 343
tcgactcttg caggaagcgg   20

<210> 344
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 344
ttcgactctt gcaggaagcg   20

<210> 345
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 345
cattcgactc ttgcaggaag   20

<210> 346
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 346
tcttatagcc catgatgatt   20

<210> 347
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 347
gatcttatag cccatgatga   20

<210> 348
<211> 20
<212> DNA
<213> Artificial Sequence .

<220>
<223> Antisense oligonucleotide

<400> 348
atgatcttat agcccatgat   20

<210> 349
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 349
ccatgatctt atagcccatg   20

<210> 350
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 350
gcatccatga tcttatagcc   20

<210> 351
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 351
tagcatccat gatcttatag   20

<210> 352
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense oligonucleotide

<400> 352
gtagcatcca tgatcttata   20

<210> 353
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 353
aaaggctatg ctgatacagt   20

<210> 354
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 354
agaaaggcta tgctgataca   20

<210> 355
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 355
acagaaaggc tatgctgata   20

<210> 356
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 356
tacagaaagg ctatgctgat   20

<210> 357
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 357
aatacagaaa ggctatgctg   20

<210> 358
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

```
<400> 358
aaatacagaa aggctatgct                                                    20

<210> 359
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 359
ttaaatacag aaaggctatg                                                    20

<210> 360
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 360
tcttaaatac agaaaggcta                                                    20

<210> 361
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 361
ggtctcagag aacacatcct                                                    20

<210> 362
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 362
tgggtctcag agaacacatc                                                    20

<210> 363
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 363
catgggtctc agagaacaca                                                    20

<210> 364
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 364
tcatgggtct cagagaacac                                                    20
```

<210> 365
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 365
tgatcatggg tctcagagaa   20

<210> 366
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 366
cctgatcatg ggtctcagag   20

<210> 367
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 367
cccctgatca tgggtctcag   20

<210> 368
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 368
cagacccaga aggagaagcc   20

<210> 369
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 369
cagccagacc cagaaggaga   20

<210> 370
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 370
ccagccagac ccagaaggag   20

<210> 371

```
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 371
gtccagccag acccagaagg                                                   20

<210> 372
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 372
tgtccagcca gacccagaag                                                   20

<210> 373
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 373
attgtccagc cagacccaga                                                   20

<210> 374
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 374
atattgtcca gccagaccca                                                   20

<210> 375
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 375
catgatctta tagcccatga                                                   20

<210> 376
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 376
tccatgatct tatagcccat                                                   20

<210> 377
<211> 20
<212> DNA
```

<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 377
catccatgat cttatagccc   20

<210> 378
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 378
agcatccatg atcttatagc   20

<210> 379
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 379
tggtagcatc catgatctta   20

<210> 380
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 380
ttggtagcat ccatgatctt   20

<210> 381
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 381
gatattggta gcatccatga   20

<210> 382
<211> 2924
<212> DNA
<213> M. musculus

<220>
<221> CDS
<222> (173)...(2341)

<400> 382
gtcgacccac gcgtccgcgc tgaggtacaa ccccgctcgg tgtcgcctga ccgcgtcggc 60
taggagaggc caggcggccc tcgggagccc agcagctcgc gcctggagtc agcgcaggcc 120
ggccagtcgg gcctcagccc cggagacagt cgagacccct gactgcagca gg atg gct 178
                                                              Met Ala
                                                              1

```
cag tgg aac cag ctg cag cag ctg gac aca cgc tac ctg gag cag ctg   226
Gln Trp Asn Gln Leu Gln Gln Leu Asp Thr Arg Tyr Leu Glu Gln Leu
        5               10                      15

cac cag ctg tac agc gac acg ttc ccc atg gag ctg cgg cag ttc ctg   274
His Gln Leu Tyr Ser Asp Thr Phe Pro Met Glu Leu Arg Gln Phe Leu
        20              25                      30

gca cct tgg att gag agt caa gac tgg gca tat gca gcc agc aaa gag   322
Ala Pro Trp Ile Glu Ser Gln Asp Trp Ala Tyr Ala Ala Ser Lys Glu
35                  40              45                      50

tca cat gcc acg ttg gtg ttt cat aat ctc ttg ggt gaa att gac cag   370
Ser His Ala Thr Leu Val Phe His Asn Leu Leu Gly Glu Ile Asp Gln
                55              60                      65

caa tat agc cga ttc ctg caa gag tcc aat gtc ctc tat cag cac aac   418
Gln Tyr Ser Arg Phe Leu Gln Glu Ser Asn Val Leu Tyr Gln His Asn
            70              75                      80

ctt cga aga atc aag cag ttt ctg cag agc agg tat ctt gag aag cca   466
Leu Arg Arg Ile Lys Gln Phe Leu Gln Ser Arg Tyr Leu Glu Lys Pro
            85              90                      95

atg gaa att gcc cgg atc gtg gcc cga tgc ctg tgg gaa gag tct cgc   514
Met Glu Ile Ala Arg Ile Val Ala Arg Cys Leu Trp Glu Glu Ser Arg
    100             105                     110

ctc ctc cag acg gca gcc acg gca gcc cag caa ggg ggc cag gcc aac   562
Leu Leu Gln Thr Ala Ala Thr Ala Ala Gln Gln Gly Gly Gln Ala Asn
115                 120             125                     130

cac cca aca gcc gcc gta gtg aca gag aag cag cag atg ttg gag cag   610
His Pro Thr Ala Ala Val Val Thr Glu Lys Gln Gln Met Leu Glu Gln
                135             140                     145

cat ctt cag gat gtc cgg aag cga gtg cag gat cta gaa cag aaa atg   658
His Leu Gln Asp Val Arg Lys Arg Val Gln Asp Leu Glu Gln Lys Met
            150             155                     160

aag gtg gtg gag aac ctc cag gac gac ttt gat ttc aac tac aaa acc   706
Lys Val Val Glu Asn Leu Gln Asp Asp Phe Asp Phe Asn Tyr Lys Thr
    165             170                     175

ctc aag agc caa gga gac atg cag gat ctg aat gga aac aac cag tct   754
Leu Lys Ser Gln Gly Asp Met Gln Asp Leu Asn Gly Asn Asn Gln Ser
    180             185                     190

gtg acc aga cag aag atg cag cag ctg gaa cag atg ctc aca gcc ctg   802
Val Thr Arg Gln Lys Met Gln Gln Leu Glu Gln Met Leu Thr Ala Leu
195                 200             205                     210

gac cag atg cgg aga agc att gtg agt gag ctg gcg ggg ctc ttg tca   850
Asp Gln Met Arg Arg Ser Ile Val Ser Glu Leu Ala Gly Leu Leu Ser
                215             220                     225

gca atg gag tac gtg cag aag aca ctg act gat gaa gag ctg gct gac   898
Ala Met Glu Tyr Val Gln Lys Thr Leu Thr Asp Glu Glu Leu Ala Asp
                230             235                     240

tgg aag agg cgg cag cag atc gcg tgc atc gga ggc cct ccc aac atc   946
Trp Lys Arg Arg Gln Gln Ile Ala Cys Ile Gly Gly Pro Pro Asn Ile
            245             250                     255

tgc ctg gac cgt ctg gaa aac tgg ata act tca tta gca gaa tct caa   994
Cys Leu Asp Arg Leu Glu Asn Trp Ile Thr Ser Leu Ala Glu Ser Gln
    260             265                     270
```

Page 88

```
ctt cag acc cgc caa caa att aag aaa ctg gag gag ctg cag cag aaa   1042
Leu Gln Thr Arg Gln Gln Ile Lys Lys Leu Glu Glu Leu Gln Gln Lys
275                 280                 285                 290

gtg tcc tac aag ggc gac cct atc gtg cag cac cgg ccc atg ctg gag   1090
Val Ser Tyr Lys Gly Asp Pro Ile Val Gln His Arg Pro Met Leu Glu
                295                 300                 305

gag agg atc gtg gag ctg ttc aga aac tta atg aag agt gcc ttc gtg   1138
Glu Arg Ile Val Glu Leu Phe Arg Asn Leu Met Lys Ser Ala Phe Val
                310                 315                 320

gtg gag cgg cag ccc tgc atg ccc atg cac ccg gac cgg ccc tta gtc   1186
Val Glu Arg Gln Pro Cys Met Pro Met His Pro Asp Arg Pro Leu Val
                325                 330                 335

atc aag act ggt gtc cag ttt acc acg aaa gtc agg ttg ctg gtc aaa   1234
Ile Lys Thr Gly Val Gln Phe Thr Thr Lys Val Arg Leu Leu Val Lys
                340                 345                 350

ttt cct gag ttg aat tat cag ctt aaa att aaa gtg tgc att gat aaa   1282
Phe Pro Glu Leu Asn Tyr Gln Leu Lys Ile Lys Val Cys Ile Asp Lys
355                 360                 365                 370

gac tct ggg gat gtt gct gcc ctc aga ggg tct cgg aaa ttt aac att   1330
Asp Ser Gly Asp Val Ala Ala Leu Arg Gly Ser Arg Lys Phe Asn Ile
                375                 380                 385

ctg ggc acg aac aca aaa gtg atg aac atg gag gag tct aac aac ggc   1378
Leu Gly Thr Asn Thr Lys Val Met Asn Met Glu Glu Ser Asn Asn Gly
                390                 395                 400

agc ctg tct gca gag ttc aag cac ctg acc ctt agg gag cag aga tgt   1426
Ser Leu Ser Ala Glu Phe Lys His Leu Thr Leu Arg Glu Gln Arg Cys
                405                 410                 415

ggg aat gga ggc cgt gcc aat tgt gat gcc tcc ttg atc gtg act gag   1474
Gly Asn Gly Gly Arg Ala Asn Cys Asp Ala Ser Leu Ile Val Thr Glu
                420                 425                 430

gag ctg cac ctg atc acc ttc gag act gag gtg tac cac caa ggc ctc   1522
Glu Leu His Leu Ile Thr Phe Glu Thr Glu Val Tyr His Gln Gly Leu
435                 440                 445                 450

aag att gac cta gag acc cac tcc ttg cca gtt gtg gtg atc tcc aac   1570
Lys Ile Asp Leu Glu Thr His Ser Leu Pro Val Val Val Ile Ser Asn
                455                 460                 465

atc tgt cag atg cca aat gct tgg gca tca atc ctg tgg tat aac atg   1618
Ile Cys Gln Met Pro Asn Ala Trp Ala Ser Ile Leu Trp Tyr Asn Met
                470                 475                 480

ctg acc aat aac ccc aag aac gtg aac ttc ttc act aag ccg cca att   1666
Leu Thr Asn Asn Pro Lys Asn Val Asn Phe Phe Thr Lys Pro Pro Ile
                485                 490                 495

gga acc tgg gac caa gtg gcc gag gtg ctc agc tgg cag ttc tcg tcc   1714
Gly Thr Trp Asp Gln Val Ala Glu Val Leu Ser Trp Gln Phe Ser Ser
500                 505                 510

acc acc aag cga ggg ctg agc atc gag cag ctg aca acg ctg gct gag   1762
Thr Thr Lys Arg Gly Leu Ser Ile Glu Gln Leu Thr Thr Leu Ala Glu
515                 520                 525                 530

aag ctc cta ggg cct ggt gtg aac tac tca ggg tgt cag atc aca tgg   1810
Lys Leu Leu Gly Pro Gly Val Asn Tyr Ser Gly Cys Gln Ile Thr Trp
                535                 540                 545
```

Page 89

```
gct aaa ttc tgc aaa gaa aac atg gct ggc aag ggc ttc tcc ttc tgg    1858
Ala Lys Phe Cys Lys Glu Asn Met Ala Gly Lys Gly Phe Ser Phe Trp
            550                 555                 560

gtc tgg cta gac aat atc atc gac ctt gtg aaa aag tat atc ttg gcc    1906
Val Trp Leu Asp Asn Ile Ile Asp Leu Val Lys Lys Tyr Ile Leu Ala
            565                 570                 575

ctt tgg aat gaa ggg tac atc atg ggt ttc atc agc aag gag cgg gag    1954
Leu Trp Asn Glu Gly Tyr Ile Met Gly Phe Ile Ser Lys Glu Arg Glu
    580                 585                 590

cgg gcc atc cta agc aca aag ccc ccg ggc acc ttc cta ctg cgc ttc    2002
Arg Ala Ile Leu Ser Thr Lys Pro Pro Gly Thr Phe Leu Leu Arg Phe
595                 600                 605                 610

agc gag agc agc aaa gaa gga ggg gtc act ttc act tgg gtg gaa aag    2050
Ser Glu Ser Ser Lys Glu Gly Gly Val Thr Phe Thr Trp Val Glu Lys
                615                 620                 625

gac atc agt ggc aag acc cag atc cag tct gta gag cca tac acc aag    2098
Asp Ile Ser Gly Lys Thr Gln Ile Gln Ser Val Glu Pro Tyr Thr Lys
            630                 635                 640

cag cag ctg aac aac atg tca ttt gct gaa atc atc atg ggc tat aag    2146
Gln Gln Leu Asn Asn Met Ser Phe Ala Glu Ile Ile Met Gly Tyr Lys
            645                 650                 655

atc atg gat gcg acc aac atc ctg gtg tct cca ctt gtc tac ctc tac    2194
Ile Met Asp Ala Thr Asn Ile Leu Val Ser Pro Leu Val Tyr Leu Tyr
660                 665                 670

ccc gac att ccc aag gag gag gca ttt gga aag tac tgt agg ccc gag    2242
Pro Asp Ile Pro Lys Glu Glu Ala Phe Gly Lys Tyr Cys Arg Pro Glu
675                 680                 685                 690

agc cag gag cac ccc gaa gcc gac cca ggt agt gct gcc ccg tac ctg    2290
Ser Gln Glu His Pro Glu Ala Asp Pro Gly Ser Ala Ala Pro Tyr Leu
                695                 700                 705

aag acc aag ttc atc tgt gtg aca cca ttc att gat gca gtt tgg aaa    2338
Lys Thr Lys Phe Ile Cys Val Thr Pro Phe Ile Asp Ala Val Trp Lys
            710                 715                 720

taa cggtgaaggt gctgagccct cagcaggagg gcagtttgag tcgctcacgt         2391
*


ttgacatgga tctgacctcg gagtgtgcta cctcccccat gtgaggagct gaaaccagaa  2451
gctgcagaga cgtgacttga dacacctgcc ccgtgctcca cccctaagca gccgaacccc  2511
atatcgtctg aaactcctaa ctttgtggtt ccagattttt tttttaatt tcctacttct   2571
gctatctttg ggcaatctgg gcactttta aaagagagaa atgagtgagt gtgggtgata   2631
aactgttatg taaagaggag agcacctctg agtctgggga tggggctgag agcagaaggg  2691
aggcaaaggg gaacacctcc tgtcctgccc gcctgccctc cttttttcagc agctcggggg  2751
ttggttgtta gacaagtgcc tcctggtgcc catggctacc tgttgcccca ctctgtgagc   2811
tgatacccca ttctgggaac tcctggctct gcactttcaa ccttgctaat atccacatag  2871
aagctaggac taagcccagg aggttcctct ttaaattaaa aaaaaaaaa aaa           2924
```

<210> 383
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 383
tggtattgct gcaggtcgtt   20

```
<210> 384
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 384
cggcaggtca atggtattgc                                                    20

<210> 385
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 385
ggacatcggc aggtcaatgg                                                    20

<210> 386
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 386
ttgtacctca gcgcggacgc                                                    20

<210> 387
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 387
aaaagtgccc agattgccc                                                     19

<210> 388
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 388
aaaagtgccc agattgcc                                                      18

<210> 389
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 389
aaagtgccca gattgcc                                                       17

<210> 390
```

<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 390
gctgcaggtc gttggtgtca   20

<210> 391
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 391
ttctacctcg cgcgatttac   20

<210> 392
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 392
gtacagttat gcgcggtaga   20

<210> 393
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 393
ttagaatacg tcgcgttatg   20

<210> 394
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 394
cgttattaac ctccgttgaa   20

<210> 395
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 395
ctgctagcct ctggatttga   20

<210> 396
<211> 20
<212> DNA

<213> Artificial Sequence

<220>
<223> Antisense oligonucleotide

<400> 396
ctcttactgt gctgtggaca   20

<210> 397
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

<400> 397
gaggcccgcc caaca   15

<210> 398
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

<400> 398
ttctgctaat gacgttatcc agtttt   26

<210> 399
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Probe

<400> 399
ctgcctagat cggc   14

<210> 400
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense Oligonucleotide

<400> 400
attcttggga ttgttggtct t   21

<210> 401
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense Oligonucleotide

<400> 401
ctccagcatc tgctgcttct t   21

<210> 402
<211> 20
<212> DNA
<213> Artificial Sequence

```
<220>
<223> Antisense Oligonucleotide

<400> 402
tttgatcgag gttagccgtg                                                      20


<210> 403
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense Oligonucleotide

<220>
<221> misc_feature
<222> 1-19
<223> bases at these positions are RNA

<400> 403
cgagaggcgg acgggaccgt t                                                    21


<210> 404
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense Oligonucleotide

<220>
<221> misc_feature
<222> 3, 4, 6, 8, 9, 10, 11, 12,
     14, 15, 16, 17, 19, 20, 21
<223> bases at these positions are RNA

<400> 404
ttgctctccg cctgccctgg c                                                    21


<210> 405
<211> 19
<212> RNA
<213> Artificial Sequence

<220>
<223> Antisense Oligonucleotide


<400> 405
cgagaggcgg acgggaccg                                                       19


<210> 406
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense Oligonucleotide

<220>
<221> misc_feature
<222> 1, 2, 4, 6, 7, 8, 9, 10, 12, 13,
     14, 15, 17, 18, 19
<223> bases at these positions are RNA
```

<400> 406
gctctccgcc tgccctggc   19